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Original Articles.

TYPHOID FEVER.

SOME UNCONSIDERED HINDRANCES IN ITS PROPHYLAXIS.*

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For fifty years we have known that drinking water is the chief vehicle of typhoid infection, and this knowledge has enabled great cities to make measurably effective defense against typhoid fever. For more than twenty years it has been known that the whole problem of preventing typhoid fever lay in the disposal of typhoid dejecta. Knowing so much, it would seem that typhoid fever might have long since been reduced to insignificance as a cause of death. But the bad eminence of the disease is as conspicuous to-day as it was twenty years ago.

In the grewsome story of typhoid among the United States troops during the Spanish-American War, we were confronted by a fact so humiliating that the profession has not yet had courage to consider fully its great significance. We learned that of every one hundred cases of typhoid fever sent to division hospitals, one-half had escaped the diagnosis of regimental surgeons. This enormous defect of professional skill was exposed, not by typhoid in its rarer and more subtle disguises, nor by the very mild infections, but by plain, uncomplicated typhoid fever, which puts a man to bed for three to six weeks; such typhoid as all physicians see year after year and recognize five or six times in ten. Restrictive measures can avail us little if the enemy can maintain effective disguise while fully armed and accoutred. The failure of definite and effective means to restrict the prevalence of typhoid fever is chargeable primarily against American medical schools, which do not teach young men to recognize the commonest continued fever of the United States.

Before the fight against typhoid fever can become hopeful one barrier must be leveled: a ponderous inertia which American medical education has imposed on the medical mind in respect to one disease. Until we are relieved of the dead weight of authority, the thraldom of the text-book, we shall go on misinterpreting, in 40 per cent. of instances, the clinical phenomena of typhoid infection. While dogmatic teaching is rapidly giving way to natural methods of study, there is in the portfolio of many a professor of medicine one lecture, or a set of lectures, which will be given up with great reluctance. The subject is typhoid fever, and the vivid descriptions so impress the students that they ever after require each case of typhoid to be as good as the description, to wear all its insignia, and to proclaim aloud its full name with decorations and titles. The prophylaxis of typhoid fever would gain an impetus from the conflagration of all such literature. Typhoid fever is taught too much; it is studied far too little. This defect of medical education has no preferred habitat within the confines of America. The glaring delinquency of Army medical men owed little to the latitudes in which it was demonstrated. These observers came from all parts of the land, and brought with them such light as their previous training and professional associations afforded. The men who entered the Army medical service in the late war were not more delinquent than those who remained in civil practice. There is a broad humor in Carroll's story of a solitary regimental surgeon who had no malaria among his fifty fever patients. He had a foreign accent, and had not acquired the American delusion that malaria is a considerable contributor to the mortality of the country.

In 1898 the Special Commission on Typhoid in the United States Army Encampments testified that no fatal malarial infections occurred to the soldiers in any part of the United States. In 1900 the profession of this country testified through the Census Bureau that for every seven persons who died of typhoid fever, three others died of malaria. In the south Mississippi belt the testimony is that twice as many deaths occurred from malaria as from typhoid. Among the twenty-one geographical divisions* of the country this one, the south Mississippi belt, showed the largest error in numbers, but a worse error was that of the central Appalachian region, where malaria is not even a considerable cause of disability, but where, nevertheless, it was charged with one death for every ten charged to typhoid.

I have plotted for each of the twenty-one grand groups the mortality returns of both typhoid and malaria by

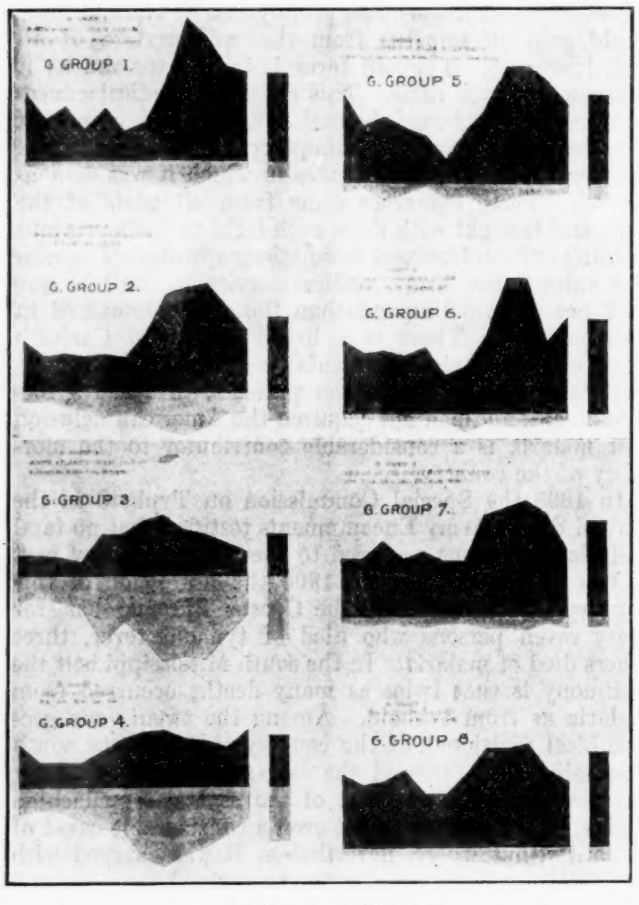
* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

* These Grand Groups do not respect state boundaries, but physical characteristics, as may be understood from their designations as follows:

Grand Group	1.	North Atlantic Coast Region.
Grand Group	2.	Middle Atlantic Coast Region.
Grand Group	3.	South Atlantic Coast Region.
Grand Group	4.	Gulf Coast Region.
Grand Group	5.	Northern Hills and Plateaus.
Grand Group	6.	Central Appalachian Region.
Grand Group	7.	The Great Northern Lakes.
Grand Group	8.	Interior Plateau.
Grand Group	9.	South Central Appalachian Region.
Grand Group	10.	Ohio River Belt.
Grand Group	11.	South Interior Plateau.
Grand Group	12.	South Mississippi River Belt.
Grand Group	13.	North Mississippi River Belt.
Grand Group	14.	Southwest Central Region.
Grand Group	15.	Central Plains and Prairies.
Grand Group	16.	The Prairie Region.
Grand Group	17.	Missouri River Belt.
Grand Group	18.	Western Plains.
Grand Group	19.	Heavily Timbered Region of the Northwest.
Grand Group	20.	Cordilleran Region.
Grand Group	21.	Pacific Coast Region.

months, and the seasonal curve itself points a suspicion that confusion between the two diseases is everywhere more or less prevalent. Indeed, the charts show the malaria curve below obedient to the typhoid curve above as faithfully as the shores are reflected by the surface of a lake. The seasonal apex for the two diseases coincides in ten of the twenty-one groups, five times in August, once in September, four times in October. In eight groups the apex of the reported malaria mortality anticipates the typhoid apex by one month. In the whole Appalachian region, which runs from northern New York to within 200 miles of the Gulf coast of Alabama, the malaria is a midsummer madness, the apex being reached in July.

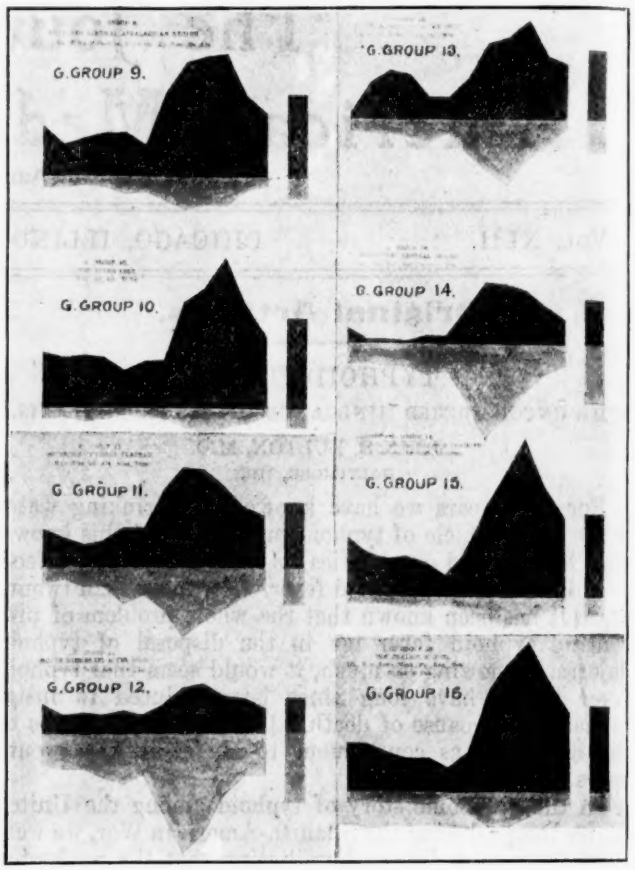
In the mid-Atlantic coast region, which includes parts of New York, New Jersey, Delaware, Maryland and



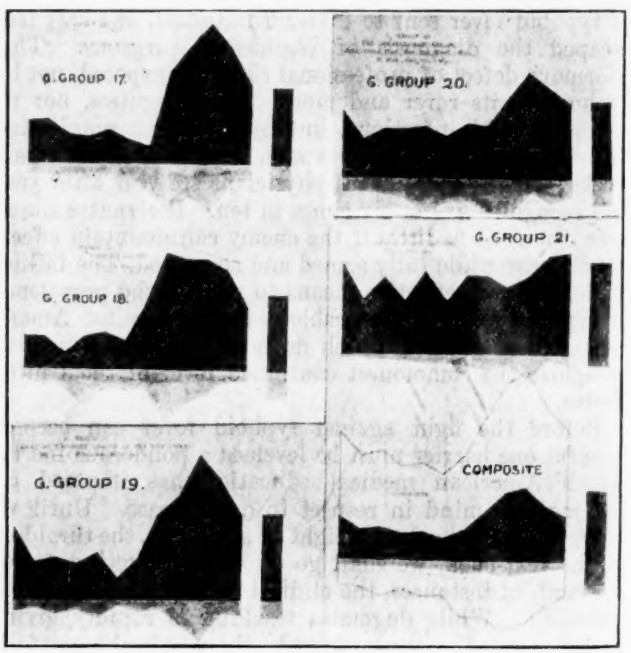
Section 1 of Chart 1.

Virginia and the whole of the District of Columbia, the Census figures show the typhoid fever and malaria mortalities in a ratio of 72 to 28. The Delaware State Board of Health recently made an extended study of the subject by modern methods, and concluded that practically all the remittent and continued malarial fevers were in fact typhoid. None of them was malarial. In Maryland, where examinations of blood for the malarial parasite have been made for four years, the parasite has been found in but 5 per cent. of all the specimens submitted. My personal belief is that fatal malarial intoxication does not happen to one citizen a year in Maryland, though malaria is in some parts of the state a considerable cause of disability.

Of all the mortality charged in the south to malaria, half, perhaps, is really due to typhoid fever. The United States Army's experience would indicate that much more than half is due in fact to typhoid, and certainly more than 50 per cent. of the mortality so charged is not due to malaria. In the north a much larger part, probably two-thirds of the reputed malarial mortality, represents



Section 2 of Chart 1.



Section 3 of Chart 1.

Chart 1 shows the reported mortality from typhoid fever and malaria in 1900 according to United States Census, by months and by Grand Groups. The black spaces indicate typhoid and the shaded spaces below indicate malaria.

unrecognized typhoid. Osler said long ago that north of the Mason-Dixon line every continued fever not yielding to quinin in six or seven days should be considered

typhoid until definitely ascertained to be something else. I am led to believe that this mental attitude toward continued fevers is as becoming to medical men in the south as to those north of the Mason-Dixon line. Outside of certain well-known areas malaria does not kill citizens of the United States, and within those areas, where malaria is a cause of grave sickness, its right to be considered an important cause of death has not been subjected to the rigid scrutiny which its apparent importance demands. Speaking for that part of the United States which I know best, I can say that the terms "malarial" and "typhomalarial" express no definite belief as to the cause or character of a disease, but are applied to fevers of indeterminate nature, in the same way that some fourteen other titles found in the United States Census Reports are used—simply for want of a more satisfactory word.

To the large deficiency in the typhoid mortality which is fairly ascribable to the malaria delusion, one must add a further correction for the missed diagnosis of typhoid at the extremes of life. The accepted view that typhoid is unusual after middle life is not at present undergoing revision, so far as I know. But with respect to children the conviction is gradually settling in the minds of pediatrists that typhoid is common in childhood. At a recent meeting of the New York Academy of Medicine J. P. Crozer Griffith remarked on the steady change of medical opinion on this point. He said that in the Children's Hospital of Philadelphia the cases of typhoid constantly outnumber those of any other single disease, and that the superabundance of typhoid is often a cause of embarrassment in the instruction of students. New York pediatrists remarked that they seldom see typhoid fever in children, but that the children of the metropolis often suffer with an obscure fever, which, for want of a better name, a distinguished clinician called "New York" fever. This circumstance reminds one of the fever that recurred year after year in a certain American city, and which, for want of a better name, was called "Ithaca fever."

When to these sources of error in the diagnosis of typhoid fever the ambulant and the anomalous cases are added, the total default in diagnosis is seen to amount to at least 50 per cent. of cases actually occurring. So long as we deceive ourselves thus grossly as to the amount of typhoid fever prevailing, we are not in a position to profit largely by our knowledge of its prevention. But there is another important point on which, if not deceived, we are only half informed; namely, as to the preferred habitat of typhoid fever.

The belief that typhoid fever is more common in close communities, and that its incidence is heaviest on cities, has its place in the medical mind by a sort of common consent. The grounds of the belief have not been examined, if indeed they have been stated. The late Colonel George Waring said in 1878: "Typhoid is peculiarly a disease of the country rather than of the town." No similar statement, I believe, is made by any American medical author; but the opposite view, that typhoid is peculiarly a disease of cities, is expressed in the most recent editions of at least four American text-books on medicine. Typhoid fever makes its most striking demonstrations in cities, and the definite influence of sanitary works on its prevalence has made the typhoid rate the accepted index of municipal hygiene. Typhoid fever has, nevertheless, at the present time and in this country, a heavier incidence on small communities and rural districts, and probably this has been the case for a long time; for sanitary works have neither such excellence nor so wide employment in American cities as to give urban populations in general good defenses against typhoid. On the contrary, the conditions of American cities with respect to water supply and disposal of waste might be expected to produce a constantly higher typhoid mortality than is experienced under rural conditions.

The returns of the Twelfth Census show that the typhoid mortality per 100,000 of population in the registration area was slightly higher in the rural districts than in the cities (25.5 to 25.3). The "registration area" contains, however, but one-third of the total population of the country, and comprises the populations of 341 cities of 8,000 inhabitants and upward. But a small part of the aggregate population of the registration area is, therefore, classed as rural.

When we examine the rank of typhoid fever among all

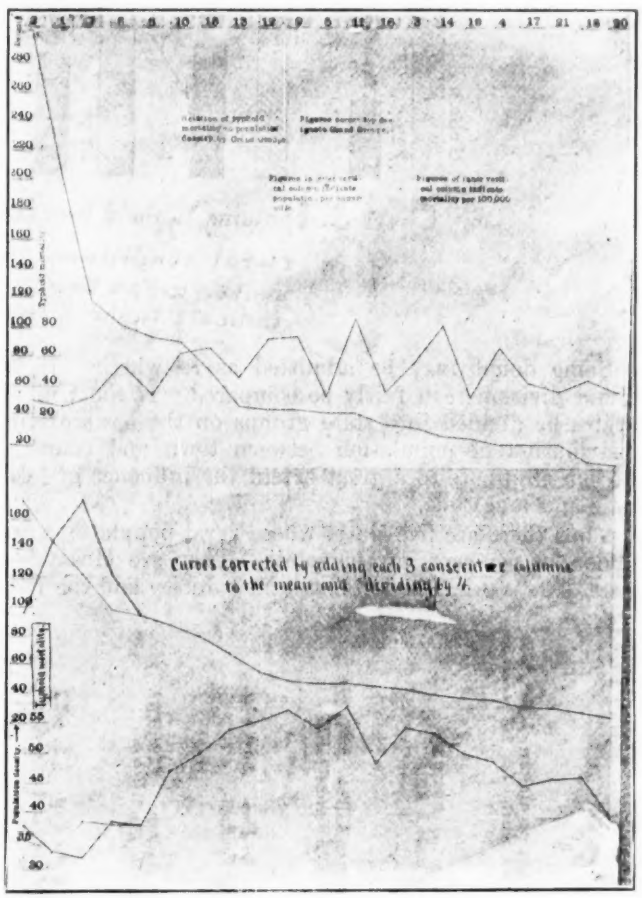


Chart 2.—Showing relation of typhoid mortality to population density. The figures across the tops indicate the Census Grand Groups in the order of their population density per square mile. The figures on the left vertical margin are the population densities. The figures in the inner left-hand column indicate the typhoid mortality.

the causes of death we find that rural typhoid fever is credited with 62 in every 1,000 deaths, as against 38 per 1,000 for urban typhoid.

Taking the 21 grand groups into which the Census office divides the country on a basis of physiography, and arranging them according to population density, one finds that the typhoid mortality rises as population density falls until we reach the low density of 50 persons per square mile. Below this point the relations of typhoid are, as might be expected, quite irregular.

The Census divides the United States into five grand divisions, which, arranged in the order of their rural population, are as follows: The south central division

having 88.9 per cent. of its total population rural, and a typhoid mortality of 79 per 100,000; south Atlantic division having a population 83 per cent. rural, and a typhoid mortality of 62 per 100,000; western division, population 68.8 per cent. rural, typhoid mortality of 33 per 100,000; north central division, population 59.4 per cent. rural, typhoid mortality of 42 per 100,000; north Atlantic division, population 41 per cent. rural, typhoid mortality of 30 per 100,000. Here we find the typhoid mortality rising as the urban population falls.

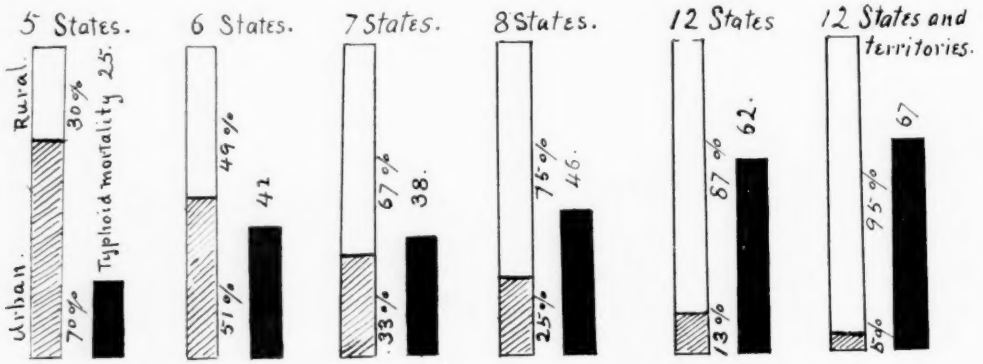


Chart 3. Showing typhoid increasing as we pass from urban to rural conditions. Rural populations indicated by white, urban by shaded areas. Black columns indicate typhoid mortality.

Some doubt may be admitted as to whether these grand divisions can fairly be compared. If the United States be divided into state groups on the basis of the distribution of population between town and country, we can eliminate to a great extent the influence of latitude and longitude.

Thus there are five states whose rural populations are under 30 per cent. of the totals. They are Massachusetts, New York, Rhode Island, New Jersey and the District of Columbia. Their aggregate population is 12,665,183, of which number 70 per cent. are classed as urban, i. e., live in towns of 8,000 or over. Their combined typhoid mortality is 25 per 100,000. (See Table I.)

Six states have populations between 40 and 50 per cent. rural—Connecticut, Pennsylvania, Delaware, Maryland, Illinois and California. In these the total population is 50 per cent. urban, and the typhoid mortality for 1900 was 42 per 100,000.

Seven states have populations between 50 and 60 per cent. rural—New Hampshire, Ohio, Michigan, Wisconsin, Missouri, Colorado, Washington. Their population is 43 per cent. urban, and their typhoid mortality in 1900 was 38 per 100,000.

Eight states have populations between 60 and 70 per cent. urban—Maine, Indiana, Minnesota, Louisiana, Montana, Wyoming, Utah, Oregon. Their population is 25 per cent. urban and their typhoid mortality in 1900 was 46 per 100,000.

Twelve states have populations between 70 and 80 per cent. rural—Vermont, Virginia, South Carolina, Georgia, Florida, Tennessee, Alabama, Texas. Their population is 13 per cent. urban, and their typhoid mortality in 1900 was 62 per 100,000.

Twelve states have populations more than 80 per cent. rural—West Virginia, North Carolina, North Dakota, Mississippi, Indian Territory, Oklahoma, Arkansas, New Mexico, Arizona, Nevada, Idaho. Their population is 5 per cent. urban, and their typhoid mortality in 1900 was 67 per 100,000. Taking the twenty-one grand groups into which the country is divided on a basis of physiography, and arranging them according to their population density, one finds that the typhoid mortality rises as population density decreases, until we reach a popula-

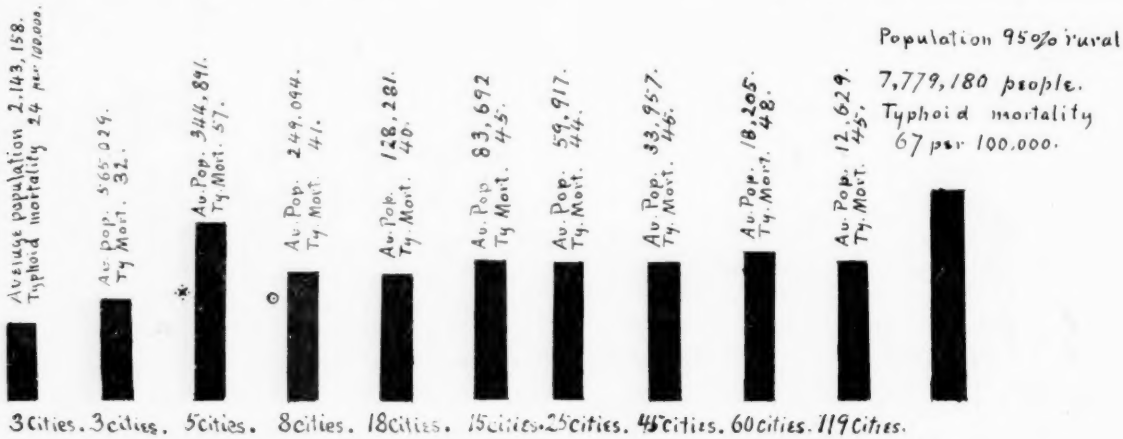

Average population 2,143,158. Typhoid mortality 24 per 100,000.
Av. pop. 565,029. Ty. Mort. 32.
Av. Pop. 344,891. Ty. Mort. 57.
Av. Pop. 249,094. Ty. Mort. 41.
Av. Pop. 128,281. Ty. Mort. 40.
Av. Pop. 83,692 Ty. Mort. 45.
Av. Pop. 59,917. Ty. Mort. 44.
Av. Pop. 33,957. Ty. Mort. 46.
Av. Pop. 18,205. Ty. Mort. 48.
Av. Pop. 12,629. Ty. Mort. 45.
Population 95% rural.
7,779,180 people.
Typhoid mortality 67 per 100,000.
3 Cities. 3 Cities. 5 Cities. 8 Cities. 18 Cities. 15 Cities. 25 Cities. 45 Cities. 60 Cities. 119 Cities.

Chart 4. Typhoid in cities. Showing general inverse relation of typhoid to population.

※ Includes Pittsburg with typhoid mortality 147 per 100,000.

⊙ Includes Washington with typhoid mortality 81 per 100,000.

tion density of 50 persons per square mile. Below that point the relations of typhoid to population density are, as might be expected, quite irregular. (See Table II.)

The experience of Maryland supports the general indications of these figures. There is but one large city in the state. The inhabitants of Baltimore are half of the total population of the state. There are but two other towns having as many as 8,000 inhabitants. It may be fairly said that the population of the state is equally divided between rural and urban conditions. The ratio of typhoid mortality is 1 to 2.5 in favor of Baltimore, a poorly-sewered city, supplied with unfiltered water from an extensive and unprotected water-shed.

Dividing the cities of this country into ten classes on a descending population scale, we find that the typhoid mortality rises somewhat as populations diminish. Thus the least mortality in 1900 (24 per 100,000) fell on the three cities having populations of more than 1,000,000—New York, Chicago and Philadelphia. Not one of these cities is watered or sewered in a thoroughly modern way. Indeed, one of them is notoriously bad in respect to water supply.

There are but three cities in the half-million class—Boston, Baltimore and St. Louis—whose combined mortality for 1900 was 32 per 100,000.

Next we have five cities—Cleveland, Buffalo, San Francisco, Cincinnati and Pittsburg—whose average population is 344,891, and whose combined typhoid mortality for 1900 was 57. In this group we have the banner city of the year in respect to typhoid mortality among populations of over 100,000, Pittsburg, with the large rate of 147 per 100,000. The combined mortality in this class, if Pittsburg were omitted, would be 37 per 100,000.

Next are eight cities with an average population of 249,094, and a typhoid mortality for 1900 of 41 per 100,000. The city of Washington, in this class, had a mortality of 81 per 100,000, adding 6 points to the combined mortality of the class.

In the next class are eighteen cities whose average population is 128,281, and whose typhoid mortality in 1900 was 40 per 100,000. The second city of the country in typhoid mortality among populations of over 100,000 is in this class, Allegheny, Pa.

In the next class are fifteen cities with populations averaging 83,692, and typhoid mortality for 1900 was 45 per 100,000.

Twenty-five cities whose populations averaged 59,517 had a typhoid mortality in 1900 of 44 per 100,000. The heaviest individual rate of the year in populations over 50,000 fell in this class on Savannah; 107 deaths among her 54,000 citizens, a rate of 197 per 100,000.

In the next class are sixty cities having an average population of 18,205, whose combined typhoid mortality for 1900 was 48 per 100,000.

Finally there are 119 cities whose populations average 12,629, and whose combined typhoid mortality for the year was 45 per 100,000.

Of twenty-four towns having typhoid mortality rates above 100, the tenth class furnishes eleven in the states of Connecticut, Iowa, Indiana, Louisiana, Wisconsin, Michigan, Kansas and Illinois. (See Table IV.)

The ninth class furnishes five towns, in Kentucky one, in New York two, in Mississippi one, in Ohio one.

The eighth class furnishes four towns, in Pennsylvania two, in Ohio one and in Colorado one.

The seventh class furnishes two towns, one in South Carolina and one in Georgia.

The sixth class furnishes one city, Atlanta, Ga., eighteenth in order of typhoid rate descending.

The third class furnishes one city, Pittsburg, Pa., sixth in rank of typhoid mortality descending.

The states contributing the eight highest urban rates are, in order, Georgia, Louisiana, Connecticut, Kentucky, Iowa, Pennsylvania, New York. Pennsylvania has two cities in this list.

In the list of cities showing rates above 100, Ohio has three towns; Pennsylvania, two; Connecticut, two; Iowa, two; Illinois, two; Georgia, two; New York, two; Louisiana, one; South Carolina, one; Kentucky, one; Indiana, one; Wisconsin, one; Kansas, one; Mississippi, one; Colorado, one; Michigan, one. (See Tables III and IV.)

The total population accounted for in this analysis of typhoid mortality is 20,922,886. The actual increase of typhoid mortality as the scale of population falls is probably greater than these tables indicate, for the states whose general mortality from typhoid is comparatively low are the chief contributors to the ninth and tenth classes, whose rates are highest.

The foregoing studies seem to warrant two conclusions, each having an important bearing on the general prophylaxis of typhoid fever. The first and more important is that the typhoid mortality reported in this country is not more (probably less) than 65 per cent. of the typhoid mortality actually occurring. Of the total morbidity from the disease a considerable part runs its course to recovery without coming under medical observation, and of the cases receiving professional care fully one-half are not recognized as typhoid fever. It therefore follows that the first step in the restriction of typhoid fever must fail for lack of diagnostic skill in the rank and file of the medical profession. The correction of this delinquency does not wait on improved methods of clinical or laboratory diagnosis, but on a general realization of the ubiquity and perennial activity of typhoid fever, and on the lumbering advance of reform in medical education.

A subsidiary conclusion from this part of the present study is that a very large majority of the deaths attributed to malaria are due to causes in which malaria does not even participate.

The second important conclusion, drawn from a study of the distribution of typhoid mortality, is that the infection is more heavily seeded in smaller communities, and that the propagation of the disease is in general from the country to the town, rather than from town to country. The explanation of this fact is probably found in the greater care given to the disposal of human excrement as communities grow more populous.

The prophylaxis of typhoid fever consists essentially in defense against excremental contamination, and precisely as the barriers are more or less remote from the sources of infection is the defense less or more effective. In this view of the prevention of typhoid fever it must appear that, notwithstanding the very great value of the defenses on which cities most rely, these defenses do not, and by their widest conceivable extension can not, satisfy the requirements of a rational prophylaxis of typhoid fever. In town and country alike the appointed time and place for intervention against the spread of typhoid fever is whenever and wherever a case of typhoid fever is recognized. Those outbreaks of typhoid which from time to time scandalize great cities and bring down wrath on the authorities are, as a rule, less important than, and may be part of, unremarked, unopposed, or perhaps lie-coddled epidemics covering the countryside

for miles around. To set up at the city gates expensive works for the purification of the public water supply as a main defense against water-borne disease is literally a preposterous arrangement. It waives the choice of time, place and weapons, conceding all these advantages to the enemy. It assumes that the vices of rural insanitation are invincible, but they are not. If there is one direction in which, more than another, the political influence of great cities should be exerted, it is to bring rural districts and small communities under legal obligation to render strict account of deaths and the causes of death, and to take and give good heed to the preventable diseases at the time and place of their occurrence.

TABLE I.

FIVE STATES WHOSE URBAN POPULATIONS ARE 60 PER CENT. AND UPWARDS.

	Population.	Urban.	Typhoid.
Massachusetts	2,805,346	2,132,623	625
Rhode Island	428,556	347,892	102
New York	7,268,894	4,980,042	1,776
New Jersey	1,883,669	1,153,001	398
District of Columbia	278,718	278,718	225
	12,665,183	8,892,276	3,126

Rural population, 30 per cent. Typhoid per 100,000, 25.

SIX STATES WHOSE URBAN POPULATIONS ARE BETWEEN 40 AND 60 PER CENT.

	Population.	Urban.	Typhoid.
Connecticut	908,420	483,068	249
Pennsylvania	6,302,115	2,865,937	2,779
Delaware	184,735	76,508	90
Maryland	1,188,044	557,497	510
Illinois	4,821,550	2,271,940	1,897
California	1,485,053	649,474	542
	14,889,917	7,593,424	6,067

Rural population, 49 per cent. Typhoid per 100,000, 42.

SEVEN STATES WHOSE POPULATIONS ARE FROM 30 TO 40 PER CENT. URBAN.

	Population.	Urban.	Typhoid.
New Hampshire	411,588	158,920	69
Ohio	4,157,545	1,599,840	1,795
Michigan	2,420,982	747,334	680
Wisconsin	2,069,042	634,437	365
Missouri	3,106,665	955,563	1,790
Colorado	539,700	205,703	222
Washington	518,103	165,282	171
	13,223,625	4,467,079	5,092

Rural population, 67 per cent. Typhoid per 100,000, 38.

EIGHT STATES WITH POPULATIONS 20 TO 30 PER CENT. URBAN.

	Population.	Urban.	Typhoid.
Maine	694,466	164,639	200
Indiana	2,516,462	607,834	1,496
Minnesota	1,751,394	470,046	386
Louisiana	1,381,625	314,386	1,077
Montana	243,329	65,623	42
Wyoming	92,531	22,294	16
Utah	276,749	69,844	73
Oregon	413,536	98,807	106
	73,700,092	1,813,473	3,396

Rural population, 75 per cent. Typhoid per 100,000, 46.

TWELVE STATES WITH POPULATIONS FROM 10 TO 20 PER CENT. URBAN.

	Population.	Urban.	Typhoid.
Vermont	343,641	305,054	107
Virginia	1,854,184	1,582,489	914
South Carolina	1,340,316	1,240,146	970
Georgia	2,216,331	1,972,562	1,585
Florida	528,542	449,413	290
Iowa	2,231,853	1,857,128	549
Nebraska	1,066,300	897,575	260
Kansas	1,470,495	1,265,288	688
Kentucky	2,147,174	1,784,115	1,669
Tennessee	2,020,216	1,750,298	1,709
Alabama	1,828,697	1,694,991	1,713
Texas	3,048,710	2,704,848	2,014
	20,096,459	17,503,907	12,468

Rural population, 87 per cent. Typhoid per 100,000, 62.

TWELVE STATES AND TERRITORIES HAVING POPULATIONS LESS THAN 10 PER CENT. URBAN.

	Population.	Urban.	Typhoid.
West Virginia	958,800	885,197	586
North Carolina	1,893,810	1,797,273	1,250
North Dakota	319,146	309,548	65
South Dakota	401,750	391,484	73
Mississippi	1,581,270	1,510,176	1,370
Indian Territory	392,060	392,060	321
Oklahoma	398,331	378,288	201
Arkansas	1,311,564	1,240,201	1,172
New Mexico	195,310	195,310	102
Arizona	122,931	122,931	41
Nevada	42,335	42,335	12
Idaho	161,772	161,772	37
	7,779,179	7,426,575	5,230

Rural population, 95 per cent. Typhoid per 100,000, 67.

TABLE II.

THE 21 GRAND GROUPS, ACCORDING TO THE TWELFTH CENSUS, SHOWING POPULATIONS, TYPHOID-MALARIA VARIETIES, WITH DENSITIES AND TYPHOID RATES.

Grand Group.	Typhoid Deaths.	Malaria Deaths.	Population.	Density.	Typhoid Mortality.
1.	868	157	3,824,576	198.4	23
2.	1,900	694	7,139,889	299.8	27
3.	625	922	1,193,697	29.0	52
4.	1,111	1,179	1,767,487	16.5	63
5.	604	94	2,063,453	38.1	29
6.	991	108	3,249,040	89.0	30
7.	1,701	193	5,910,100	114.0	29
8.	3,796	557	7,488,008	99.4	51
9.	2,886	695	4,031,150	39.0	70
10.	1,774	309	3,018,359	85.7	58
11.	3,971	2,285	4,812,414	37.7	83
12.	753	1,424	1,090,623	39.0	69
13.	1,198	571	2,872,624	42.2	42
14.	4,319	3,597	5,424,490	21.9	79
15.	3,410	695	5,458,379	65.0	62
16.	2,645	641	8,133,937	30.6	33
17.	537	169	1,446,643	16.5	37
18.	580	199	1,442,684	3.4	40
19.	543	101	1,990,622	20.3	28
20.	638	220	1,965,065	2.2	33
21.	529	64	1,671,335	16.0	32

TABLE III.

Three hundred and one American cities classified on a descending scale of populations; showing typhoid mortality according to U. S. Census figures for each of ten classes.

CLASS I.

	Population.	Deaths from Typhoid.
Chicago	1,698,575	470
New York	3,437,202	594
Philadelphia	1,293,697	489
Totals	6,429,474	1,553

Average population, 2,143,158. Typhoid mortality per 100,000, 24.

CLASS II.

	Population.	Deaths from Typhoid.
Boston	560,892	153
Baltimore	508,957	177
St. Louis	575,238	190
Totals	1,695,087	520

Average population, 565,029. Typhoid mortality per 100,000, 32.

CLASS III.

	Population.	Deaths from Typhoid.
Cleveland	381,768	184
Buffalo	352,387	88
San Francisco	342,782	135
Cincinnati	325,902	106
Pittsburg *	321,616	474
Totals	1,724,455	987

Average population, 344,891. Typhoid mortality per 100,000, 57.

* Pittsburg being omitted, the typhoid mortality of the group is 37 per 100,000.

CLASS IV.—EIGHT CITIES.

	Population.	Deaths from Typhoid.
New Orleans	287,104	191
Detroit	285,704	54
Milwaukee	285,315	52
Washington, D. C.*	278,718	225
Newark, N. J.	246,070	26
Jersey City	206,433	46
Louisville, Ky.	204,731	150
Minneapolis	202,718	83
Totals	1,996,793	827

Average population, 249,094. Typhoid mortality per 100,000, 41.

* Washington being omitted, the typhoid mortality of the group is 35 per 100,000.

CLASS V.—EIGHTEEN CITIES.

	Population.	Deaths from Typhoid.
Providence	174,597	52
Indianapolis	169,164	77
Kansas City	163,752	125
Rochester	162,608	38
St. Paul	162,065	36
Denver	133,859	57
Toledo	131,822	53
Allegheny, Pa.	129,896	134
Columbus, Ohio	125,560	68
Worcester, Mass.	118,421	21
Syracuse, N. Y.	108,374	25
Fall River	104,863	23
Los Angeles	102,320	51
New Haven	108,027	33
Paterson, N. J.	105,171	31
St. Joseph, Mo.	102,979	37
Scranton	102,026	30
Omaha	102,555	41
Totals	2,309,059	932

Average population, 128,281. Typhoid per 100,000, 40.

CLASS VI.—FIFTEEN CITIES.

	Population.	Deaths from Typhoid.
Albany	91,151	41
Richmond, Va.	85,050	66

	Population.	Deaths from Typhoid.
Dayton, Ohio	85,333	45
Seattle	80,671	31
Atlanta, Ga	89,872	98
Lowell, Mass	94,969	18
Cambridge, Mass	91,886	19
Portland, Ore	90,426	22
Grand Rapids, Mich	87,565	34
Hartford, Conn	79,850	45
Reading, Pa	78,961	35
Wilmington, Del	76,508	50
Camden, N. J	75,935	22
Trenton, N. J	73,307	25
Bridgeport, Conn	70,996	11
Totals	1,255,385	562

Average population, 83,692. Typhoid per 100,000, 45.

CLASS VII.—TWENTY-FIVE CITIES.

Total population	1,389,462
Average population	55,578
Total typhoid deaths	625
Typhoid mortality per 100,000	45

	Population.	Deaths from Typhoid.
Oakland, Cal	66,960	22
Lynn, Mass	68,513	13
Lawrence, Mass	62,559	8
Springfield, Mass	62,059	18
New Bedford, Mass	62,442	16
Somerville, Mass	61,643	17
Elizabeth, N. J	52,130	5
Wilkesbarre, Pa	51,721	14
Erie, Pa	52,733	18
Harrisburg, Pa	50,167	20
Evansville, Ind	59,007	45
Charleston, S. C	55,807	70
Savannah, Ga	54,244	107
Manchester, N. H	56,987	6
Troy, N. Y	60,651	53
Utica, N. Y	56,383	3
Salt Lake, Utah	53,531	16
San Antonio, Texas	53,321	44
Duluth, Minn	52,969	23
Portland, Me	50,145	21
Hoboken, N. J	59,364	19
Yonkers, N. Y	47,931	6
Holyoke, Mass	45,712	13
Waterbury, Conn	45,859	21
Norfolk, Va	46,624	27
Totals	1,389,462	625

CLASS VIII.—FORTY-FIVE CITIES.

Total population	1,528,061
Average population	33,957
Total typhoid deaths	689
Typhoid mortality per 100,000	45

	Population.	Deaths from Typhoid.
Haverhill, Mass	37,175	4
McKeesport, Pa	34,227	15
Altoona, Pa	38,973	19
Spokane, Wash	36,848	19
Davenport, Iowa	35,254	23
Sioux City, Iowa	33,111	13
Johnstown, Pa	35,936	35
Elmira, N. Y	35,672	13
Chelsea, Mass	34,072	8
Springfield, Ill	34,159	19
Bayonne, N. J	32,722	5
Superior, Wis	31,091	19
Allentown, Pa	35,416	17
Salem, Mass	35,956	7
Youngstown, Ohio	44,885	51
Brockton, Mass	40,063	16
Binghamton, N. Y	39,647	13
Lancaster, Pa	41,459	23
Covington, Ky	42,938	17
Mobile, Ala	38,469	31
Wheeling, W. Va	38,878	26
Lincoln, Neb	40,169	14
Terre Haute, Ind	36,673	22
Saginaw, Mich	42,345	17
Tacoma, Wash	37,714	7
Fitchburg, Mass	31,531	6
Malden, Mass	33,664	13
Newton, Mass	33,587	7
Taunton, Mass	31,036	3
Auburn, N. Y	30,345	12
Schenectady, N. Y	31,683	10
Canton, Ohio	30,667	19
Pawtucket, R. I	39,231	7
Quincy, Mass	36,252	8
Sacramento, Cal	29,282	1
Woonsocket, R. I	28,204	6
New Castle, Pa	28,339	42
Jacksonville, Fla	28,429	19
Easton, Pa	25,238	4
Newport, Ky	28,301	15
Pueblo, Colo	28,157	31
Passaic, N. J	27,777	10
Williamsport, Pa	28,757	11
Bay City, Mich	27,628	8
Gloucester, Mass	26,121	4
Totals	1,528,061	689

CLASS IX.—SIXTY CITIES.

Total population	1,092,281
Average population	18,205
Total typhoid	521
Typhoid per 100,000	48

	Population.	Deaths from Typhoid.
Norristown, Pa	22,265	9
Jamestown, N. Y	22,892	16
Muncie, Ind	20,942	10
Burlington, Iowa	23,201	14
Wilmington, N. C	20,976	10
Leavenworth, Kan	20,735	8
Wichita, Kan	24,671	17
New Brunswick, N. J	20,006	4
Jackson, Mich	25,180	16
Kalamazoo, Mich	24,404	7
Muskegon, Mich	20,818	4
Bangor, Me	21,850	13
Petersburg, Va	21,810	18
Cohoes, N. Y	23,910	35
Watertown, N. Y	21,696	18
Lafayette, Ind	18,116	6
Richmond, Ind	18,226	10
Ottumwa, Iowa	18,197	18
Northampton, Mass	18,643	6
Chicopee, Mass	19,167	9
Medford, Mass	18,244	7
Lynchburg, Va	18,891	17
Key West, Fla	17,114	7
Paducah, Ky	19,446	31
Lebanon, Pa	17,628	8
Eau Claire, Wis	17,517	5
Battle Creek, Mich	18,563	7
Port Huron, Mich	19,158	7
Concord, N. H	19,632	2
Niagara, N. Y	19,457	24
Findlay, Ohio	17,613	19
Portsmouth, Ohio	17,870	9
Sault Ste. Marie, Mich	19,158	1
Natchez, Miss	23,898	27
Orange, N. J	24,141	5
Perth Amboy, N. J	17,699	2
Kingston, N. Y	24,535	5
Newburgh, N. Y	24,943	10
Amsterdam, N. Y	20,929	3
Gloversville, N. Y	18,319	3
Poughkeepsie, N. Y	24,029	7
Hamilton, Ohio	23,914	4
Lima, Ohio	21,723	8
Newark, Ohio	18,157	5
Central Falls, R. I	18,167	2
Newport, R. I	22,034	12
Burlington, Vt	18,640	4
Santiago, Cal	17,700	2
Meriden, Conn	24,296	5
New London, Conn	17,548	3
Norwich, Conn	17,251	1
Belleville, Ill	17,484	14
Aurora, Ill	24,147	10
Decatur, Ill	20,754	8
Galesburg, Ill	18,607	4
Everett, Mass	24,336	6
Winona, Minn	19,714	5
Madison, Wis	19,164	3
Green Bay, Wis	18,684	6
Nashua, N. H	28,898	1
Totals	1,092,281	521

CLASS X.—ONE HUNDRED AND NINETEEN CITIES.

Total population	1,502,829
Average population	12,629
Total typhoid	674
Typhoid per 100,000	45

	Population.	Deaths from Typhoid.
Lockport, N. Y	16,581	3
Shreveport, La	16,013	30
Marinette, Wis	16,195	19
Appleton, Wis	15,085	3
Lansing, Mich	16,485	4
Biddeford, Me	16,145	13
Alameda, Cal	16,464	5
Rome, N. Y	15,343	6
Helena, Mont	10,770	4
Meadville, Pa	10,291	10
Carbondale, Pa	13,536	5
Columbia, Pa	12,316	6
Pottstown, Pa	13,696	5
South Bethlehem, Pa	13,241	6
Oil City, Pa	13,264	11
Rutland, Vt	11,499	4
Harrisontown, N. J	10,596	3
Millville, N. J	10,583	5
Montclair, N. J	13,962	1
Phillipsburg, N. J	10,052	2
Ithaca, N. Y	13,000	4
Flint, Mich	13,103	5
Ann Arbor, Mich	14,509	3
Marquette, Mich	10,058	8
Menominee, Mich	12,818	15
West Bay City, Mich	13,119	6
Dover, N. H	13,207	3
Portsmouth, N. H	10,637	1
Augusta, Me	11,683	5
Fresno, Cal	12,470	5
Bridgeton, N. J	13,913	3
Morristown, N. J	11,267	3
Watervliet, N. Y	14,321	12
Dunkirk, N. Y	11,616	6
Geneva, N. Y	10,433	5
Lansingburg, N. Y	12,595	8
Ogdensburg, N. Y	12,633	11
Saratoga, N. Y	12,409	6
Ashtabula, Ohio	12,949	5
Chillicothe, Ohio	12,976	9
Tiffin, Ohio	10,989	4

	Population.	Deaths from Typhoid.
Massillon, Ohio	11,444	5
Marietta, Ohio	13,000	8
Lawrence, Kan	10,862	3
Phœnixville, Pa	9,196	4
Bennington, Vt	5,656	2
Barre, Vt	8,448	3
Owosso, Mich	8,696	4
Pontiac, Mich	9,769	1
Escanaba, Mich	9,549	9
Iron Mountain, Mich	9,242	1
Ironwood, Mich	9,705	4
Traverse City, Mich	9,407	3
Berlin, N. H	8,886	3
Laconia, N. H	8,042	2
Rochester, N. H	8,466	0
Keene, N. H	9,165	0
Rockland, Me	8,150	1
Hutchinson, Kan	9,379	11
Carlisle, Pa	9,626	5
Plymouth, Pa	13,649	7
Glen Falls, N. Y	12,613	5
Jeffersonville, Ind	10,774	10
Columbus, Ind	8,130	3
Peru, Ind	8,463	10
Vincennes, Ind	10,249	8
Keokuk, Iowa	14,641	15
Muscatine, Iowa	14,073	13
Marshalltown, Iowa	11,544	18
Oskaloosa, Iowa	9,212	4
Leadville, Colo	12,455	6
Raleigh, N. C	13,643	6
Newburyport, Mass	14,478	4
Weymouth, Mass	11,324	1
Marlboro, Mass	13,609	1
Alexandria, Va	14,528	11
Annapolis, Md	8,525	2
Frederick, Md	9,296	4
Hudson, N. Y	9,528	5
Cortland, N. Y	9,014	5
Bellaire, Ohio	9,912	7
Middletown, Ohio	9,215	1
Warren, Ohio	8,529	6
Plainfield, N. J	15,369	2
Middletown, N. Y	14,522	3
Port Jervis, N. Y	9,385	3
Peekskill, N. Y	10,358	0
Corning, N. Y	11,061	5
Johnstown, N. Y	10,130	3
Olean, N. Y	9,462	3
Ironton, Ohio	11,868	12
DuBois, Pa	9,375	4
Hazeltown, Pa	14,230	3
Mahanoy, Pa	13,504	3
Mt. Carmel, Pa	13,179	2
Pittston, Pa	12,566	2
Pottsville, Pa	15,710	3
Steelton, Pa	12,086	3
Ansonia, Conn	2,681	2
Danbury, Conn	16,537	3
Greenwich, Conn	2,420	3
Middletown, Conn	9,589	5
Naugatuck, Conn	10,541	5
Norwalk, Conn	6,125	2
Stamford, Conn	15,997	1
Stonington, Conn	2,278	1
Wollingford, Conn	6,737	3
Bristol, Conn	6,268	11
Tarrington, Conn	8,360	2
Danville, Ill	16,354	17
Jacksonville, Ill	15,078	10
Ottawa, Ill	10,588	3
Michigan City, Ind	14,850	3
Beverly, Mass	13,884	4
Melrose, Mass	12,962	6
Mankato, Minn	10,599	6
Chippewa Falls, Wis	8,094	3
Beloit, Wis	10,436	0
Manitowoc, Wis	11,786	3
Totals	1,502,829	674

TABLE IV.

THE 24 CITIES HAVING TYPHOID MORTALITY RATES OF ABOVE 100 PER 100,000 IN THE DESCENDING ORDER.

	Population Class.	Typhoid Mortality per 100,000.
Savannah	7	197
Shreveport	10	187
Bristol, Conn	10	175
Paducah, Ky	9	159
Marshalltown, Iowa	10	156
Newcastle, Pa	8	147
Pittsburg, Pa	3	147
Cohoes, N. Y	9	146
Charleston, S. C	7	125
Greenwich, Conn	10	124
Niagara, N. Y	9	123
Peru, Ind	10	118
Marinette, Wis	10	117
Menominee, Mich	10	117
Hutchinson, Kan	10	117
Youngstown, Ohio	8	114
Natchez, Miss	9	113
Pueblo, Colo	8	110
Atlanta, Ga	6	109
Findlay, Ohio	9	108
Allegheny, Pa	7	106
Danville, Ill	10	104
Keokuk, Iowa	10	102
Ironton, Ohio	10	101

DISCUSSION.

DR. J. H. MUSSER, Philadelphia—It is fortunate that we can make an early, or more precise, diagnosis by modern bacteriologic methods, such as the employment of the serum test, or by culture methods; by such means we can make such precise diagnoses that there can hardly be any mistakes made regarding the nature of the prevailing fever or epidemic. There is no excuse, therefore, except probably in some communities or districts, for not making an early diagnosis. Unfortunately, however, there is a lack, apparently, of conscience in physicians. They are not awake to the dangers of the infection in cases of typhoid fever. Not long ago, within the last three years, I saw three cases of typhoid fever in one family in the country that had their origin as follows: The original case was an imported one. This man became infected in a near town and came to the country home of the physician, who was very careless regarding the disposal of the excreta. The relation of the privy was such that its contents drained into a driven well. This, of course, was the source of infection in the members of the family. One member of this family died and two were placed in great peril. These people were taken ill and all were sick, including the physician, due to the carelessness, or lack of conscience, on the part of the physician regarding the disposal of the excreta. There was a lack of regard for the protection of the people in that district. I could tell of many local epidemics arising through the faults of physicians. It is, therefore, necessary to take a lesson to ourselves before we preach to communities. Communities should be educated in regard to this. Above all, the civil authorities should be brought to realize their responsibilities. In cities where there are piles of dirt, etc., a policeman goes and places a red lantern at each pile to indicate danger; yet no civic authorities would place a red light danger signal in places where there were epidemics or possibilities of typhoid fever. Why is this done in the first instance? Because the city knows that if an accident should happen the authorities would be held responsible. If we should hold the civic authorities similarly responsible in cases of typhoid fever we could soon get control of the disease. How can we help ourselves regarding this? It is a difficult problem and a difficult question to answer.

It has been said that the busy practitioner has not time to act as police and see that his people carry out his directions regarding the disposal of excreta, etc. We should see developed a conscientious sense of duty which should inspire the untiring effort of all to protect communities as well as individuals. Each practitioner in a community should have a trained assistant. Let him take a man, for instance, from the Johns Hopkins Hospital Laboratory to assist him in laboratory work; any good practitioner can afford this. I am satisfied that any practitioner of medicine who takes an assistant to do work of this character, and so shows the community that he is practicing the highest type of medicine and making every effort to protect the community, will increase his income to twice what it would have been without an assistant in charge. If, however, that does not seem to be practical, then a group of physicians should have an assistant to make diagnoses and watch the excreta and to determine whether a typhoid fever patient should be sent forth in a community with safety by examining the urine, etc. If this is not practical, then we should resort to government control. We must educate the civic government itself regarding the danger of typhoid fever patients, and make them understand that they should be under their charge. The physician should continue to treat the patient, but the civic authorities should be held responsible for him until he is perfectly harmless. The patient should not be allowed away from a community. All the excreta and discharges should be taken care of. Then, too, perhaps, the government should be held responsible for the laboratory diagnosis and also for the sanitary management of the case, absolutely from the start of the infection. I do not think this is an unreasonable thing to expect. When we realize the trouble the government is taking with some infections, when we realize the mass of money that is spent to prevent the spread of yel-

low fever or the plague, when we think of how many more lives are lost through the ravages of typhoid fever, and when we think that our hands are practically paralyzed in our attempts to obtain governmental control of these cases, we must marvel at it. They should look after typhoid epidemics as they do after other epidemics.

I had hoped to learn a ready method for disinfecting the urine. Disinfection of the urine is very essential before the patients get from out of our control. Probably we can make the urine sterile by the use of urotropin. In the later stages of the disease and throughout the period of convalescence and until a trained assistant or a government expert shows the urine is free from bacilli these patients should not be lost sight of. The use of urotropin is one of the best methods for preventing as well as curing a complication of typhoid fever, i. e., cystitis; sterilizing the urine is the best aid in the way of prophylaxis.

DR. DELANCEY ROCHESTER, Buffalo—Milk may be infected after leaving the farm, and the source of infection be difficult to trace. In Buffalo, in one of the healthiest districts, ten years ago, four members of the same family were taken ill with typhoid fever within four days of each other, and there was apparently no local reason for it. In looking for the source of the disease the milk supply was investigated. At the farm from which the milk came there was no typhoid. The milk was followed to the city, and the source of infection was found to be at the home of the man who delivered the milk. In his home was a case of typhoid fever; after he received the milk from the farm he had it bottled at his home, the same persons washing the bottles and caring for the typhoid patient. Thus it was accounted for. In his route through the city were found cases of typhoid fever.

In reference to the prevention of typhoid fever, we must remember that we do not know how long organisms persist in the stools after the patient has recovered from the attack. This is one chief source for the spread of the disease which should be borne in mind; after the patient recovers and goes about his business he still may be a source of infection on account of the persistence of the organisms in the stools.

I did not understand whether Dr. Fulton said that the disease was more prevalent in the country than in the cities, or whether the mortality was greater. If the latter, I think it is due to the lack of facilities, for the farmer will not or can not get the necessary nursing for these patients, and the consequence is that they die because they are not properly cared for; in such cases, of course, the physician is not at all at fault. I think the source of mortality in the country districts is to be found in this lack of proper care, or a lack of ability or willingness to care for these patients.

With regard to the disinfection of the urine, Dr. Musser has already referred to the use of urotropin. In three cases of typhoid fever we found the urine free from organisms and apparently in a sterile condition two weeks after the patient had recovered from the disease after giving urotropin; before that time the urine was infected.

With regard to disinfection of the stools, I have found that powdered chlorid of lime thoroughly mixed with each stool is efficacious.

DR. WM. KRAUSS, Memphis, Tenn.—We have a municipal ordinance which requires that every case of typhoid fever be reported, and in accordance with that requirement I reported a case. A lay inspector called and asked if the party had used well water or cistern water and got the address of the milk man. He left no literature or instructions as to the hygienic management of the case. The patient, a young lady, was very fond of ice cream, and would send to a nearby factory for a little paperboxful perhaps once or twice a day, and this was probably the source of infection. I think a municipal health board culpable for entrusting such matters to a policeman. The inspector should be a specially trained medical man.

About ten years ago I kept the records of the board of health in Memphis, and in one year I noticed that the returns for the year were about 270 deaths from malarial fever and 35 deaths from typhoid fever. This was before our public water supply was from artesian wells. Surely this was a wrong proportion of deaths from these two fevers, for in one season I had in my service at St. Joseph's Hospital about 400 cases of fever, in the neighborhood of 260 of which were malarial, of which latter only one died. Most of these patients were from the swamps about Memphis and were in a very bad condition. This would argue that many of the 270 deaths on the records must have been typhoid fever, since malarial fever with us is not so fatal.

DR. FRANK WARNER, Columbus, Ohio—It is doubtless true that some cases of typhoid fever develop as a result of an infection acquired in some other way than drinking water; by eating some raw vegetables which have on them some typhoid bacilli, or by any of the several but unusual methods of acquiring the disease. It remains a fact, however, that the number of cases which develop in any other way than by drinking infected water are very few indeed. Then, as this is the usual method of infection, it becomes the duty of physicians everywhere to urge better water supplies in their respective communities. Not only does it become our duty to speak of these things, but also to point out from time to time that the great underlying cause of typhoid fever is the result of an absolute indifference in various communities of the dangers arising from drinking the water that is ordinarily furnished by many municipalities. There needs to be a rude awakening from the absolute indifference to which many communities have fallen. If the people in a community really make up their minds that there is a real danger in an unfiltered public water supply the politicians who operate the places will quickly install the most modern and approved methods of purifying water. They will give any community just as good water as they demand, and no better. It seems to me that it is time we should seek to prevent this disease on a greater scale than mere study and prevention of individual cases. This prevention on a large scale can best be accomplished by the construction of public filtered water supplies. And this filtered water is rendered purest by sand filtration. It is frequently argued against sand filtration that it does not remove all the bacteria of a disease-producing character. This is entirely true. It does remove some 98 or 99 per cent. of the pathogenic germs. Dr. William H. Welch has stated that one is not so likely to develop typhoid fever from drinking water which is only slightly infected with the typhoid germs as where it contains a large number of them. Then, if sand filtration does not remove all germs, and consequently all danger of infection, as it does remove at least 98 per cent. of the germs, it removes an equal per cent. of the danger of infecting the individual drinking the water. The ideal filter plant would remove all germs of a disease-producing character. Inasmuch as this can not be done, we must be content for the present to attain such a great improvement in the purity of a water in a community. And just in proportion that a pure water is furnished to a community, in just that proportion are we meeting the chief indication of prevention of typhoid fever.

Again, I believe that securing of a better water supply in any community should be a part of the labor of the physician and bacteriologist as well as the engineer. And this labor of the physician and bacteriologist should be as liberally paid for as the labor of the engineer. In seeking a water supply the engineer should be aided by the bacteriologist. This aid should not consist, as it does so many times when the engineeer calls such help, in simply examining the water for a time or two, but careful bacteriologic examinations should be made over a considerable period; these examinations should be made under varying conditions, so that a reliable conclusion may be drawn. While it is true that some of the more able sanitary engineers cover these points, still it is the rule that in the establishing of a public water supply the engineer regards it as distinctively an engineering problem rather than a joint undertaking of the engineer and the bacteriologist and physician. When this fact becomes better known and recognized we shall have purer water supplies and less typhoid fever.

DR. J. N. HURTY, Indianapolis—It seems to me that the question of prophylaxis goes back further than we teach. At

first we thought that, after the etiology of the disease had been discovered, all we had to do was to disinfect the dejecta. Now we find that there are clinicians and diagnosticians who do not make out all cases of typhoid fever. We all know that the dejecta carry the typhoid organisms long after the patients are seemingly well, months after in some cases. This fact should teach us something. We must not only disinfect the dejecta, but we must properly dispose of it; if that be done then we will soon abolish typhoid fever. I believe that all intestinal disorders, the germs of which are cultured in the intestines, will spread under certain conditions in the towns and large cities unless we treat and do away with the dejecta. We must filter the water in our towns and cities; and we must see that the dejecta are cared for in a sanitary way, then typhoid fever will certainly be abolished. I have read there was practically no sanitation in the days of Henry VIII, and that at that time the dejecta and slops were thrown into the streets; the proposition to care for them in pits was received with scorn and ridicule. But when the streets were used no longer for dejecta disposal there was a pronounced diminution in the number of cases of disease that arose from such causes; the death rate of typhoid fever and other diseases fell, and health conditions improved, after the human dejecta were cared for in pits. Let us go deeper into the study of this question and let us learn to care properly for all dejecta; then I can promise that the disease will disappear.

DR. HENRY SEWALL, Denver—In the prophylaxis of tuberculosis it is admitted that physiologic resistance of the individual to the growth of tubercle bacilli is only second in importance to the exclusion of the bacilli themselves. In the prophylaxis of typhoid fever all sanitary effort seems to be restricted to the exclusion of the germ, and we hear nothing of the means of increasing the vital resistance of the individual after the manner which, in the conflict with tuberculosis, has proved so effective. The development of typhoid fever in a person is very largely determined by his physiologic condition while the typhoid germs lie in his intestines. A man recently under my charge had a mild run of fever for a few days; the Widal test was negative and the attack seemed clearly of "functional" nature. He was allowed to get up and increase his diet after some ten days, when shortly he became seriously ill, the blood test became positive and he nearly died with typhoid fever. Again, a little boy declared himself to have been perfectly well until he ran a foot race, when he was suddenly seized with vomiting and abdominal pain, ushering in a well-marked attack of typhoid fever. In each of these cases the attack of typhoid was exacerbated or precipitated as the result of physical exertion. A large proportion of our typhoid patients come from the hardiest and healthiest class of people. But they fall victims to the disease while engaged in work which upsets their physiologic equilibrium. They are very apt to be compelled to work to fatigue in the intense heat of the sun. It is not hard to imagine that under such conditions the germicidal powers of the gastric juice might deteriorate and the vital resistance of the body fluids and tissues themselves might be reduced. We might, therefore, speak of every individual enjoying, as regards typhoid fever, a certain immunity on a sliding scale. With every physiologic function doing well its co-ordinated task, the typhoid germ may possibly be ingested with impunity; immunity is high. But let the vital machinery falter ever so little and infection readily occurs; immunity is low.

DR. DEERING J. ROBERTS, Nashville, Tenn.—Medical science is based on fact and on proof. Theories in medicine arise, spring up, live or die, depending on that idea. You can not build theories and make facts to fit them. Dr. Happel gave you the results of his observations; our work here is the result of observations. He records his observations of facts in his locality. On the other hand, representatives of Johns Hopkins and the University of Pennsylvania tell what they do not see. The microscope will tell you a fact and give the clinician aid when sustained by clinical observations. These men come with statements; Dr. Happel comes with observations. Take the humblest court in the land and submit to the bench two or three credible witnesses and you will be able to establish an observation as a fact. There is one witness from Arkansas. Dr. Witherspoon of Tennessee tells you what he saw. I claim to have seen the same fever for forty years. The Surgeon-General of the United States saw in the Army reports during the sixties something that was not down in the text-books, and he essayed to find out about it, only he went a little bit further and gave it a name. His efforts were sterile, so much so that he took back what he said regarding this fever and said he did not say it. Typhoid-malarial fever belongs to the ages of the past. One gentleman came here and endeavored to prove by therapeutic demonstration that we had a typho-malarial fever, "this and nothing more." You must look at things as they are and not as you wish to have them. I have seen 40 consecutive cases of fever in one season. Five years ago, before the Tennessee State Medical Society, I gave the clinical notes of a fever, "this and nothing more." This was not enteric fever. It ran along and gave an erratic temperature. Some have called it paratyphoid and atypical typhoid, etc. A leopard may change its spots, but still it is a leopard. There are certain characteristics about it which you can always recognize. What constitutes typhoid fever? The bacillus of Eberth must be present. Let the gentlemen with their monoculars and binoculars say what they please; we have the same in the laboratories in Tennessee. We have a series of recorded cases reported and published in the state medical society's transactions, with carefully trained observers, teachers in laboratory work, and in this series of cases the bacillus of Eberth was wanting. We have had it stated by able clinicians that this is a fever with erratic temperatures; that it was not attended by the abdominal symptoms of typhoid fever. I have seen 40 cases lasting 14 days or less, all of the same type. There have been reported 90 successive cases and none went beyond two weeks' duration. This is nothing but fever; let it alone and the patient will get well.

DR. C. F. ADAMS, Trenton, N. J.—We have flies and mosquitoes in New Jersey; the mosquitoes are growing less, so is malaria. The Delaware river is a large sewer, and those who live along its banks become infected with typhoid fever. We make our differential diagnosis by taking a drop of blood on a slide for the Widal reaction, and also smear a cover slip for the plasmodium, and mail them to the state laboratory, where they are examined free. We should like to have the government prohibit the use of unfiltered Delaware River water for drinking purposes.

DR. JAMES TYSON, Philadelphia—I have been surprised that no reference has been made to the easiest and simplest way of making drinking water innocuous, i. e., by boiling. In Philadelphia to-day our hospitals are filled with typhoid fever cases largely to the exclusion of others, and I am sure that very few of these need have had typhoid fever if the drinking water had been boiled. Of course, we must look back to the source of infection. There are times when no filtration will protect the water against the typhoid bacillus; in fact, I believe that it is considered impossible to eliminate entirely the bacillus even when we have the best filtration plants; especially in times of great freshets, when there is a blocking up of the apparatus. If the working people could be taught to use no drinking water that had not been boiled many epidemics would be averted. Of course, the difficulty of doing this is evident, but we as physicians could do much by insisting on this practice, not only among the poor, but among the rich as well, and with all with whom we come in contact. The Schuylkill river water has not a good reputation, but I know of no instance where the disease has been acquired through the use of this drinking water after it was boiled. Boiling will effectually destroy the typhoid bacillus.

DR. JAMES J. WALSH, New York—A prominent sanitary officer once said that when somebody had typhoid fever somebody ought to be hung. We know that we can contract typhoid fever only from a typhoid fever patient. If that typhoid fever patient is not properly cared for somebody is to be blamed for criminal negligence. In large cities what is to be done?

take a certain large city, not far from New York, which has had typhoid fever constantly in its midst for the past ten years. Every year there are a large number of deaths and the "boss" of that city has made the boast that he kept back the sanitary plant for a long time because provision had not been made for giving a part of the work to a friend of his. In this city there have been 3,000 deaths during that time from typhoid fever and nothing has been done toward getting a better and purer water supply. This boss has no sense of civic duty. Sanitary plants have been used in Germany for years; in Berlin proper filtration plants had been used thirty years before they had a death from typhoid fever. People on the farms have less death rate than in the city.

With regard to filtration, the little town of Altoona, near Hamburg, did not have a single death from cholera in spite of the fact that they used the water from the Elba. When this disease is communicated to another some one is criminally responsible. We should make the municipal authorities understand that the dangers lie in allowing certain tyrants to continue in control in sanitary work when there is a prolonged outbreak of typhoid fever.

DR. WALTER SHROPSHIRE, Yoakum, Texas—I am surprised at Dr. Tyson's statement that his patients might have avoided typhoid fever by boiling their drinking water, suggesting water as the only means of conveying the disease. In the town where I live, with a population of 6,000, there are 50 or more cases of typhoid fever each year. These people without exception use water from an artesian well, 1,400 feet deep, which is pumped direct into the mains and is never exposed to the atmosphere till drawn from the hydrant for drinking. If these people get typhoid fever through their drinking water I am unable to see how the bacilli get into it. Two years ago there was a case of typhoid fever near me treated by one who did not have the dejecta properly cared for, permitting it to be thrown out on the ground surface, this being in early summer when the ground was dry and dusty. Immediately following this case I treated 15 others within a radius of 300 yards of it, whose infection was traceable to this focus, and they could not have obtained the poison through water, for it was drawn from the hydrant and used immediately. I recall an experience of 12 years ago, when I treated a case of typhoid in December, and was unable to have any disinfectant used at all. The nurse simply threw the dejecta out in the back yard. During the balance of December, January, February, March and April we had no typhoid fever in that neighborhood. During May we had a drouth and the surface became dry and dust was prevalent, being carried by a prevailing southeast wind. The dry weather had existed not more than two weeks when typhoid began developing around this focus, and I treated 73 cases within a radius of 300 yards of it; and seven-tenths of them were to the northwest where the prevailing wind carried the dust from this infected focus. These people all used different water from surface wells about 70 feet deep and through a heavy clay and light rock strata. Now, if these people were infected through their drinking water why were there no cases through the five rainy months, when the earth surface was wet and why such preponderance of cases to the northwest where the prevailing wind would carry the dust from this infected focus? And if it be conceded that the spores were carried in dust by the wind and infected their drinking water, why could it not as well infect articles of food and thus reach the intestines of the individual? I am convinced that the dust was the means of infection in these cases as well as in many others. Again, our Spanish-American war demonstrated conclusively that flies can and do carry the infection, and Dr. Alice Hamilton of Chicago read a paper before this Association a year ago forcibly portraying the fact that flies do carry the infection. With such facts before us I think even Dr. Tyson should modify his remarks on the subject.

DR. T. J. HAPPEL, Trenton, Tenn.—The discussion of this morning has been on typhoid fever, not on the paper read by me on Tuesday.* The object of my paper was not to discuss the subject of typhoid fever, but to report cases of a fever occurring in my practice, which were cases of neither a typhoid nor a malarial fever.

I do not claim that there is no typhoid fever in the section of Tennessee in which I live, but in my own town it has almost entirely disappeared. We have not had a case of it for years. We account for our peculiar exemption from the fact that all of our drinking water is filtered through a vast bed of sand underlying our town. Some geologist claims that we are located over what in ages past was a large body of water which has been replaced by sand, and through this sand of an unknown depth our water filters, rendering it almost perfectly pure. While in our immediate neighborhood we have no typhoid fever, yet in certain sections of our county typical cases of typhoid fever are found.

When the cases reported to me are referred to as "atypical," "paratyphoid," etc., you are begging the question. In reference to microscopic examinations in these cases, I stated that examinations had been made in 138 cases of this fever by persons who had the reputation of being skilled in the use of the microscope and in laboratory work. Thus my clinical observations were not left unsupported. One person discussing the paper suggested that the variations in temperature were due to the use of the coal-tar derivatives. The coal-tar products are never used by me except in those cases where I have failed to reduce the temperature by water and other febrifuges. In not one of the 100 cases which have come under my care has there been any tendency to hemorrhage. One member of the section referred to the fact that he had cured cases of this type by a certain routine medication, but my paper referred only incidentally to the subject of treatment. In the closing lines of the paper I mentioned the fact that I used guaiacol carbonate in treating these cases the last season. If cases of this type of fever are let alone and nursed well they recover without or in spite of medicine. One of my patients recovered who was given by her mother on one occasion a box of sardines and allowed to eat them all at one time. At another time this same child during the third week of her fever was fed enough biscuits to have surfeited a well person. Had this been a case of typhoid fever we would probably have had a funeral. I have treated two cases of this fever in pregnant females, one five months advanced, the other seven. Both miscarried, and on the day following the miscarriage the temperature in both cases fell to normal and never went above that point again. Both made uneventful recoveries, a very different result so far as my experience has gone with typhoid fever under similar circumstances.

I wish again to emphasize the fact that the cases reported by me did not present a single characteristic symptom of typhoid fever.

DR. JOHN S. FULTON, Baltimore—I regret that any one should have misinterpreted my demonstration of the higher mortality of typhoid in rural districts as a reflection on the rural physician's skill. I know nothing about the comparative case mortality as between town and country, and I assume that the higher absolute mortality in the rural districts means a correspondingly higher morbidity. No other conclusion can be drawn from the evidence. In treating cases of typhoid fever the city physician has, so far as I know, but a single advantage over his fellow in the country, and that advantage is in skilled nursing. The trained nurse may, perhaps, profit the case mortality by the 1 or 1.5 per cent., but in my opinion the chief profit of trained nursing lies in the control of morbidity.

I take occasion to say now what I did not say in my paper, that the trained nurse, proportionately to the numerical strength of her profession, opposes more effective barriers to the spread of typhoid than does the practicing physician. That may be construed as a criticism of the profession and may be added to the other criticism of a 48 per cent. default of professional skill in the diagnosis of typhoid.

I did not intend in my paper to touch the minutiæ of prophylaxis, but I am glad that the discussion brought out the very

* See THE JOURNAL, July 11, 1903, pp. 82 to 96.

central problem of disinfecting stools. A disinfectant for fecal matter should be first effective, and after that must be cheap, rapid, safe and convenient. No agent yet proposed meets all these requirements or even a majority of them. I am inclined to regard quicklime or air-slaked lime as the most generally available disinfecting agent for typhoid excreta.

But above all things I want to impress the Association with the testimony of the profession itself, shown here in graphic form, and supporting, as I think, in the most convincing manner and for the whole United States, the testimony of the U. S. Army Commission that the medical men of the land habitually misinterpret the continued fevers of the United States. This is a definite and insistent challenge at the very threshold of the prophylaxis of these fevers. What will you do about it?

SHALL WE OPERATE ON DEFORMED SEPTA IN CASES OF ATROPHIC RHINITIS?*

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Much has been written about this very greatly afflicted class of patients, and little has been accomplished. They should receive our best care for their own good and for the relief of the people with whom they come in contact. True, our horizon is the limit of our vision. The atrophic patient does not know the pleasure derived through the sense of smell; at the same time he does not appreciate the disgusting foul smell which makes him an undesirable member of society. The ancient Greeks considered ozena a good and sufficient cause for divorce. It was also considered a bar to the priesthood. Surely we may well advise against transmission to future generations.

Where a patient is convinced that he is an offense wherever he goes much has been done to gain the necessary perseverance in treatment. With eternal vigilance on the part of both physician and patient, results may be accomplished—a percentage of cures and the abolition of foul odors. The knowledge that we are shunned because of some avoidable defect in ourselves is about the greatest stimulus that can influence us.

Sclerosis or atrophy, without crusts or excessive secretion, due to overwork and pressure, is more advanced on the roomy side and in the inferior turbinals, the middle turbinals often being hypertrophied. Pressure on the tissues and an effort to perform normal function constantly irritate the narrow side, while the overwork and too free passage of air irritate the roomy side. Deflected septa plus spurs and ridges with enlarged pharyngeal tonsils are the local causes which lead to this condition. If this class of cases only is considered I am inclined to agree with the writers who claim that atrophy is a purely local condition, not dependent on other diseased conditions. I also believe that it is readily and quickly cured or much improved by the removal of the pharyngeal tonsil and by equalizing as nearly as possible the nasal space by correcting the deflected septum and removing ridges and spurs.

Add to the above local conditions a depraved constitutional inheritance and there results the class of cases generally recognized as atrophy. With the great loss of tissue, particularly turbinal tissues, all of which are involved, a very different picture is presented—marked ozena of a musty character, excessive secretion and crusts, with usually complete loss of smell. There is frequently a large lingual tonsil with little or no enlargement of the pharyngeal tonsil, a generally depraved constitutional condition, deranged stomach and bowels, irritable bladder, severe headaches, etc.

From careful observation and study of these cases I am convinced that heredity plays a very important—if not the most important—part in their production. Usually more than one member of a family is afflicted; and, if the inheritance is not direct from mother or father, investigation will trace it to uncles and aunts or to grandparents. One or more members of a family may have marked atrophy while others are subject only to frequent attacks of purulent rhinitis. In the absence of these local or constitutional causes repeated attacks of purulent rhinitis never develop atrophy.

The moderately enlarged pharyngeal tonsil is usually beneficial and many hesitate to remove it. In time past most operators have objected to correcting septal deformities for fear of added destruction of tissue in a space already too roomy, claiming that the spurs, ridges, etc., are a benefit. Perhaps they would be a benefit if they equalized the space and if they did not tend to the retention and difficult removal of the secretion. The retained secretion is a constant menace to the entire respiratory tract, accessory sinuses, and, in fact, to the whole system. The general and local conditions react on each other, and probably more depends on the local than on the constitutional treatment for the general improvement. At the same time, the better the general condition the more rapidly will the local condition respond to treatment. I have had several cases in which constitutional treatment had been given for years with little success in relieving the general condition; and local treatment alone relieved all the symptoms of stomach, bladder, etc.

Please do not understand me to advocate neglect of any of the cleansing, disinfecting and stimulating treatment which is so necessary in these cases and which must not be left entirely to the patient. The skilled physician can see and remove much secretion not within the reach of the patient. The more thorough the cleansing the more rapid will be the improvement. I do wish to urge securing the best possible local condition.

After a careful study of the cases and a few thorough cleansings, operate. Operate first on the sinuses of the roomy side if they are involved. As completely as possible correct the septal deflections, removing only the thickenings necessary to bring the septum into the median line. Later smooth up the septum as the individual case may demand. The tissues have not the recuperative power of normal nasal tissues, and much care must be used in the operation, not only to remove as little tissue as possible to gain the desired correction but to make no undue or unequal pressure, especially on the cartilages. Change the splint frequently and continue its use the shortest time possible. Never use a pin in an atrophic septum. A pin will often cause perforation in twenty-four hours and, once formed, the conditions are not favorable to its closure. Stimulate all cut edges to secure an over, rather than an under, inflammatory reaction. Excessive granulation tissue can easily be removed. With these precautions I am confident that operative interference will hasten the cure of atrophic cases.

The earlier in the course of the disease the operation is done the quicker and the better are results. I have yet to operate on a patient that does not see and admit

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

benefit from the operation, as shown in the more rapid local and constitutional improvement and the greater ease with which the parts are cleansed. It is useless to cite cases, as all tell practically the same story. My private patients have possibly given the better results, as they have continued treatment a longer time and have been more thorough in their part of it.

In the rare instances in which the process has run its course with complete destruction of the turbinal tissue and cessation of abnormal secretion and crusts it is probably wise to let well enough alone. I have seen not more than a half dozen such cases.

In going over more than 3,000 cases I find that deflected septa, with or without spurs and ridges, are almost invariably associated with loss of turbinal tissue; that in true atrophy it is the rule to find one fossa more roomy than the other and the atrophic process more advanced on the roomy side. The ages range from 3 years to 79. Occupation seems to have little influence in etiology, but good air hastens recovery as much as in any other condition. About 67 per cent. are women in my collection of cases. This percentage is doubtless too large, and means that women are more apt than men to seek relief when suffering from the condition.

Let me urge for the good of society at large the thorough treatment of atrophic cases and that the operative side be not neglected.

THE DISTRIBUTION OF BLOOD VESSELS IN THE LABYRINTH OF THE EAR.*

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The course of the blood stream through the labyrinth of the ear has been a subject of considerable uncertainty and difference of opinion among anatomists. The reasons are obvious, for the complicated series of cavities that go to make up the labyrinth of the ear makes the study of the blood supply by the ordinary method from sections very inaccurate, unless laborious methods of reconstruction are used. This element of difficulty was successfully overcome, however, when Eichler introduced the method of making celloidin casts of the labyrinth in which the circulation could be viewed in its entirety. But with this accomplished, and with such a complete picture of the blood supply before one, the complicated network of vessels found in the labyrinth of the adult ear is, in many places, very difficult if not quite impossible to disentangle with any degree of accuracy.

The arteries offer the chief difficulty, for in the fully-developed ear these vessels undergo a remarkable series of windings and convolutions which have been designated by Schwalbe as "glomeruli." It was found, however, that in the younger stages of the embryo the arteries are perfectly straight and simple, as are the veins. In this work the circulation in the labyrinth of the ear has been worked out, using the simpler scheme found in the younger embryos to interpret, when necessary, the more complicated system found in the adult.

The material used was the embryo pig. An unlimited supply of fresh material gave ample opportunity for experimenting with methods of injection until satisfactory preparations could be obtained in sufficient numbers for study. An aqueous solution of Prussian blue was used as injecting medium. This penetrates readily the capillaries, and with this fluid it is possible to get complete injection of the arteries, veins and capillaries. The differentiation between arteries, veins and capillaries in these preparations where but one injection was used, can be made out by carefully studying the preparations.

The method chiefly used in this work was that introduced by Oswald Eichler of making celloidin casts of the labyrinth from preparations that have been previously injected. Among the large series of preparations made were a few where the arterial tree alone was injected and several where the venous tree alone was filled. In most of the preparations both the arteries and the veins were filled as well as the capillaries. In addition to the celloidin casts, thick sections were made of the injected decalcified labyrinth in order to verify certain points about which there was an element of doubt from the study of the casts.

The results of the work can be expressed briefly as follows:

1. But one artery, the labyrinthine, supplies the labyrinth in the ear of the pig. This vessel enters the labyrinth along with the auditory nerve through the meatus acusticus internus. A single vein, the vena canaliculi cochleæ, drains the labyrinth, leaving, along with the canaliculus cochleæ, at a point distinct from that at which the artery enters.

2. The several divisions of the labyrinthine artery which go to supply the cochlea anastomose freely with each other through a number of anastomotic loops or arcades at the base of the cochlea, thus insuring for each part a blood supply reinforced freely from each division.

3. The arterial supply to the cochlea is arranged on such a plan that, as a rule, the vessels which send out the arteries to supply the scala vestibuli of a coil send out another set of arteries which supply the lamina spiralis of the coil next above. The arrangement usually described for the human ear, where the arteries for the scala vestibuli and for the lamina spiralis of the same coil comes from the same vessel, is found in the cochlea of the pig's ear, but only as the exception.

4. The venous blood of the cochlea drains entirely into the vena canaliculi cochleæ. The veins from the ligamentum spirale of the first half of the basal coil are collected into a large trunk which runs along the middle of the under surface of the basal coil to empty into the vena canaliculi cochleæ. The veins from the remainder of the basal coil are collected into the posterior spiral vein which runs along the posterior inner margin of the coil.

5. The venous blood from the upper coils of the cochlea is collected by a tributary of the posterior spiral vein. This vein in its beginning follows the spiral direction of the upper coil. It then passes directly downward through the modiolus to join the posterior spiral vein, receiving tributaries from the upper coils which converge toward this central vessel. The anterior spiral vein which Siebenmann found in the cochlea of the human ear does not exist in the ear of the pig.

6. The veins which lie between the coils of the cochlea are supplied by two sets of tributaries, one of which collects the blood from the scala vestibuli of the coil

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen. The detailed report of this research, from the Laboratory of Anatomy, University of Chicago, will appear with illustrations in the Decennial Publications of the University of Chicago.

beneath, and the other from the scala tympani of the coil above.

7. The so-called spiral veins of the cochlea, which are usually described running under the tunnel of corti, in the crista spiralis, in the crista of the ligamentum spirale and in the prominentia spiralis, are formed in the ear of the pig from capillary loops which form the boundary line for distinct capillary areas in these parts.

8. There was often found in the cochlea of the pig's ear a connection between the vessels of the lamina spiralis and those of the ligamentum spirale. This connecting link consisted of straight veins which ran from the terminal loops under the tunnel of Corti across to the veins in the crista of the ligamentum spirale, and were found in the terminal coil as well as in the basal coil.

9. The arterial supply for the vestibule and the semicircular canals comes in part from the anterior vestibular artery, and in part from arteries which spring from the anastomotic loops between the arterial trunks which supply the cochlea.

10. The venous blood from the vestibule and the semicircular canals is collected into two large trunks which empty into the vena canaliculi cochleæ. This is in striking contrast to the condition found by Siebenmann and Eichler in the human ear, where the veins from the semicircular canals left the labyrinth with the aqueductus vestibuli.

11. The capillaries are distributed almost exclusively to the membranous labyrinth. In the semicircular canals this is shown the most clearly. Here the capillaries surround the membranous canal while the vein runs along its inner concave surface, and the artery, for the most part, clings to the inner concave surface of the osseus canal, sending an occasional twig to the capillary loops around the membranous tube.

12. The capillary loops of the membranous semicircular canals do not, as a rule, completely surround this tube, but leave a zone along its convex surface free from vessels except for an occasional connecting loop which runs across this space.

PROFESSIONAL RESPONSIBILITIES.*

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While this is a hackneyed subject, it is one on which we ought to devote a great deal of thought. We stand before the public and the general profession as the guardians of the entrance to the alimentary canal, and these responsibilities laid on us determine many things in connection with the general health of our patrons. I am not unmindful that while we occupy a very limited field as to the actual work which we do, the far-reaching effect of the work, or lack of it, is easily demonstrable. It seems to me that we fall short of a just and broad comprehension of our responsibilities in many instances.

These responsibilities begin in our advising our patrons as to the care and carefulness with which the temporary teeth of the little ones should be protected, as well as advising as to the care of the permanent teeth which obtain in later years.

In former papers before this and other gatherings I have urged on the general profession as well as on our special department the care which should be bestowed on the deciduous teeth. It doubtless is overlooked by many general practitioners and, judging from my observation, by even many in our special field that the teeth of the growing child should be kept more carefully even than the teeth of the adult. A reason apparent to all is that while in adult life nutrition is necessary only to make up for the waste of tissues, in the growing child there are many reasons why added nutrition should be obtained, chief among which may be mentioned the waste tissues which must be made up are fully as large in proportion as in the adult, while with the child there is a rapid development of the general system requiring much additional nutriment. Indirectly, there are many other reasons, among which are these: A child has a vigorous and almost unlimited appetite; if these deciduous molar teeth are allowed to become sensitive, painful or lost, the mastication of the child is necessarily hampered, and it is an axiom that a child will never masticate food if by so doing pain is caused. They very early in life learn that despicable habit of "bolting" their food with but little or no mastication, if mastication is in any way disagreeable, thus fixing on them a habit for life which is conducive to many of the ills of indigestion and malnutrition. A still further reason is the fact that all teeth in the mouth at all ages have a tendency to move toward the median line of the mouth, hence if one of these deciduous teeth is extracted before its successor is ready to erupt, the teeth behind will move toward the front, thus preventing the proper eruption and corresponding development and expansion of the arch, and causing the coming in of the teeth in abnormal positions, and creating irregularity and its subsequent ills.

I have always urged on the general profession and our special department that exceeding care should be given to the deciduous molar teeth, and that we should advise our patrons to urge on the child a thorough use of the brush. There should be frequent inspections of these teeth, and whenever a suspicion of decay invades them immediate professional attention should be given. If they are preserved in a healthful condition, mastication can be performed fully, so that the ills resulting from "bolting" of food may not invade the stomach of the little patient, bringing on it the ills of indigestion. We frequently recognize that in the case of a very nervous little one the only trouble, probably, is dyspepsia caused by lack of the above attentions, so that I would urge on the members of our specialty that most careful attention be given to these teeth until the time for them to be replaced by the permanent bicuspids, as well as that very great care should be observed in attention to the first permanent molar which is erupted at about the sixth year of age, and the molars which are subsequently erupted posteriorly thereto.

This first permanent molar we all recognize is the abutment of the arch, and is from its location, position, size and attachments, the most important tooth of the mouth to be preserved at this or any subsequent period. The loss of this tooth, or lack of attention thereto, as well as the lack of care of the deciduous molars, in my belief, produces most of these cases of irregularities and deformities of the lower part of the face, Nature having evidently intended that the lower part of the face should be developed and expansion thereto attained by the gradual wedging in and pushing apart of the alveolar process by the eruption of the larger teeth of the permanent set.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

I would also condemn a custom which may be illustrated by the following experience: A professional man of a neighboring city, whose record for general professional standing is high, had had a patient under his care for many years. The family recently removed to Chicago and this patient fell under my care, and on my calling his attention to many small cavities in the teeth he explained that his former attendant had said that he knew there were many small cavities, but that it would be better to wait and fill them later. This is to my mind one of the greatest fallacies and one which obtains more largely than is generally admitted. My belief is that whenever we have an opportunity to examine a patient's mouth we should give it a most rigid, careful and thorough inspection, calling the patient's attention to every defect which can be found by such a careful inspection and urging on him the importance of early attention thereto. Especially would I suggest that, if any teeth are left unattended to, they should be those which have large cavities; in other words, I would urge that the teeth attended to should be at least those which have the small cavities, thus preventing them from getting bad. It is a common expression of mine to such patients: "If for any reason you wish only two or three teeth filled and wish those to be the ones which need it the most, I will immediately, after careful inspection, fill the three teeth which have the smallest observable points of decay, thus preserving those teeth from becoming bad, and the very bad ones will only get a little worse." This will illustrate my position perhaps as well as could be otherwise expressed.

My observation has led me to believe that many members of our specialty do not recognize the importance of thus acting. In fact, my attention has been called by several men of prominence to the fact that by so doing one gets the name of being a high-priced dentist, and is thus marked for being shunned, when as a matter of fact such practice, while it causes much more work to be done at the time, saves a great amount of work in subsequent sittings of the same patient, as observed in a practice extending over a large number of years.

I believe that we have large responsibilities also in careful observation of the relations which are borne by the teeth, their eruption, care, or lack of care, to the general health of the patient as well as reflex disturbances which may be brought about by this irritation being reflected and observed in other of the special organs of the head. Cases could be cited which would illustrate this, but I think that this matter is generally accepted as true by the profession at large, but sufficient care and thoroughness is not observed in a general way as to the minute observations of this rule in general practice.

Another responsibility which we face is that of supplying a masticating apparatus when the natural teeth and roots, or at least many of them, have been lost. Crowns and bridge work are, or may be, made most useful as a conserver or restorer of health when a lack of mastication has caused disordered digestion and the accompanying ills, and yet a note of warning should be sounded that bridge work or crowns may by improper adjustment be made to cause the very ills which they were intended to rectify. Very great care and thoughtfulness must be bestowed on bridge work and crowns to see that the articulation is made natural, and that the force of mastication may be on the lines of natural resistance which would have obtained had the natural teeth not been lost. I have seen many bridges which were absolutely useless in themselves, and which have caused the loss of many of the abutments thereto, thus making the last condition of the patient worse than the first. Our effort should always be to advise and recommend to our patients those things which we feel assured will be for the permanent welfare of the patient, never allowing ourselves to be misled by any suggestion or any wish of the patient to have cheap, or over-expensive, work done, if in our belief such work is unwarranted for permanent results.

Summarizing, I would urge early attention to deciduous molar teeth, great care and carefulness of the so-called six-year-old or first permanent molar, very thorough examinations of teeth always and early operation on any evidences of decay in any of the teeth at these or subsequent periods, and very great care observed as to recommendations of crowns or bridges, or any other artificial substitute, and a very careful observation as to reflex effects on other organs and tissues resulting from irritation in the mouth and teeth. These are a few of the many things which we should feel are responsibilities laid at our door for the protection and benefit of humanity at large.

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DISCUSSION.

MR. T. E. CONSTANT, Scarborough, England—I agree with Dr. Baldwin on the necessity for the care of children's teeth. Dentists fully recognize its importance, but in England, and perhaps also in the United States, the majority of the members of the medical profession do not systematically examine the teeth of children under their care and, when it is necessary, recommend them to consult a dentist. If this were done many infantile troubles would be avoided, and by preserving the temporary teeth a great deal of work subsequently done by dentists in the way of regulation of permanent teeth would be rendered unnecessary. Many troubles are dependent on neglected conditions of the teeth in adults. When connected with a general hospital I had many opportunities of seeing incipient gastric ulcer. In almost all the cases the teeth were in very bad condition. In the prehemorrhagic stage of gastric ulcer, patients treated in the general hospital were relieved without any attention to the mouth, but with careful dieting, etc. It is the experience of physicians in England—I have not been able to demonstrate it—that careful repair of dental decay, removal of suppurating roots, and careful attention to the hygiene of the mouth have cured the patients without further medicinal treatment; and that, so long as the aseptic condition of the oral cavity was preserved by the patient after leaving the hospital, the gastritis has not recurred. It seems, perhaps, a bold thing to say, but, in my opinion, the majority of cases of severe gastritis in young women are due to defective oral hygiene. I therefore think the point in the paper is well taken.

DR. T. L. GILMER, Chicago—We do not get hold of children sufficiently early. As soon as the teeth have erupted we ought to see the children regularly for examination. We frequently have children brought to us with the teeth decayed to the extent of an uncovered pulp, and with a child of nervous temperament it is no wonder, under such circumstances, that extractions are made. I therefore insist that the children shall be brought to me, not only to examine for decay, but to see whether the caretaker in the home is giving proper attention to the dental organs and to the mouth. I believe I have in this way saved many more teeth by the prevention of decay than by filling. Prophylaxis, if intelligently carried out, will do a wonderful amount of good. It is the dentist's duty to examine not only the dental organs of his patients, both young and adult, coming for examination, but to scrutinize every part of the oral cavity. If we do otherwise we are unworthy the name of professional men. If the laryngologist examined only for one diseased condition he would hardly be

considered a valuable man to his patients. Not long since, in examining the mouth of a patient, I discovered under the tongue a stone in Wharton's duct which had been overlooked. This calcareous deposit had caused a serious condition of the submaxillary salivary gland. The patient might have been spared this trouble had the family dentist kept close watch over all of the mouth, instead of only examining the dental organs.

DR. EUGENE S. TALBOT, Chicago—If there is any one time in the life of the child when oral hygiene should be at its best, it is at the time of the eruption of the temporary teeth. In my studies on evolution it is noted that the face, the jaws and the teeth are changed from generation to generation. To a certain extent the nationality of an individual may be judged by the evolution of the head and face. I believe in these transitory structures the conditions in the mouth, decay of teeth, etc., are very apt to occur. It is at the time of the eruption of the temporary teeth we have what I have termed the second period of stress. These periods of stress are very much on the same order as people speak of the systemic changes every seven years. At this time the dentist has an idea that all diseases of the human body revolve around the teeth, and to a certain extent this is true; but he forgets that the mucous membrane throughout the body is undergoing a great change at the same time. Up to this the child has been taking liquid food, the system is now preparing itself for harder food, and the cells of the mucous membrane are undergoing a great change. Therefore, as the essayist has stated, the greatest care of the teeth should be taken at this time. I do not agree with Weissman regarding the non-inheritance of acquired defects. I do believe in the inheritance of acquired defects, and have proved the theory. In Mississippi, and I suppose in other parts of the South, and in England, the habit is to extract the first permanent molar, especially if it be decayed; in the South it is customary to extract it, on general principles; the reason being that the extraction of this tooth allows the others to erupt in a normal condition. This particular point is important because of the transitory nature of the jaws. Continuous extraction has a tendency to produce arrest of development, the inheritance of acquired defects. It is, therefore, a cause of irregularities of the teeth as seen in England, which is further intensified from generation to generation.

DR. G. L. CURTIS, New York—I can verify from my own observations Mr. Constant's remarks in relation to diseases of the throat. I believe that a very large portion of the work done by specialists of the throat becomes necessary because of the pathologic condition of the teeth. Children should be taken to the dentist for examination and treatment early in life and often, at least every three months, and if the dentist finds disease of the throat he should direct the patient to the proper person for treatment. A specialist in diseases of the throat once met me in the street and said: "I shall soon have to send you a percentage of my income." I asked him why, and he replied, "Because you send me more patients than all the other dentists in the city put together." That remark stimulated me to a closer observation of the nose and throat of a patient, but I refused to accept any percentage. I think extraction of the six-year molar is generally a lazy man's way of avoiding work. I believe it should never be done except where the child's tooth is abscessed, and in many cases not then. There are, however, individual characteristics that may require special treatment.

DR. M. L. RHEIN, New York—The necessity, for men who assume the position of caring for the teeth, of realizing their responsibility, can not be too strongly urged. It is my invariable rule to pay absolutely no attention to the suggestions or directions of people coming to me until I have made a thorough examination. I then inform them of what I deem advisable to be done, and if it does not meet their wishes our relations end at that point. I believe that is the only truly professional line of conduct. This, I think, differentiates between what we are pleased to call stomatologists and dentists.

DR. W. E. WALKER, New Orleans—We do not always "see ourselves as others see us." I did not know that it was the practice of England and the South to sacrifice the first permanent molar. This extraction does occur here I am aware, but I judge from articles written on it that this is practiced elsewhere. Here I know it is too common. In regard to examining the whole mouth instead of looking simply at the tooth to which attention is directed by the patient, that this practice is not sufficiently common among dentists has been impressed on me by the surprise occasionally manifested by a patient when I have proceeded to examine the whole oral cavity rather than simply the tooth complained of.

DR. M. L. RHEIN—I agree with Dr. Walker that there is as much extraction of the first permanent molar in the East and West as in the South. There is no warrant for the removal of the first permanent molar.

DR. GEORGE F. EAMES, Boston—This subject should be brought to the attention of the general practitioner and of other specialists that patients may be advised in regard to oral conditions. It should also be brought to the attention of laymen. The subject of the relation of the local conditions in the mouth to the general health I consider of the greatest importance.

DR. A. E. BALDWIN—In a paper of this kind one can only touch on the different subjects. I would especially emphasize what Dr. Gilmer has said of not having opportunity to see patients sufficiently early. As Dr. Eames has said, there are relations to be recognized. Our object should be to unify all the departments of the healing art in one great whole.

TOLERANCE OF THE TISSUES TO FOREIGN BODIES,

WITH SPECIAL REFERENCE TO THE PULP AND GUMS.*

M. H. FLETCHER, M.D., D.D.S.
CINCINNATI.

The reason that one foreign substance within the tissues is more or less irritating than another, is to be determined not alone by the character of the substance but also by how it influences the cells of the tissues involved. That environment influences cell life is well known. Aside from the effect of their food, cells may be influenced by temperature, electrically, by chemicals and mechanically. Our present purpose is to consider mechanical irritants.

In treatises on gunshot wounds it is presumed that the bullet is of lead, and the practice almost universally advised is to leave the ball undisturbed if it is not easily found. There is an adage generally recognized to the effect that "when a bullet has ceased to move it has ceased to do harm." The accompanying specimens (Figs. 1 and 2) of elephant's tusks, No. 1 with a lead bullet encapsulated, No. 2 with an iron bullet rolling about in what seems to have been a pus cavity, shows the different effects these two metals may have on living tissue (assuming the conditions to have been the same). These bullets, which have been shot at the animal's head, have penetrated the pulp chamber of the tusk, the animal living long enough afterward for the bullet to become encapsulated in ivory (Fig. 1) or produce a pathologic cavity (Fig. 2).

The protrusion of a broken breach from the apex of the root of a pulpless tooth, seems invariably to cause an abscess, whereas the protrusion of a gutta percha point apparently causes no trouble. A number of years ago Gunn suggested the use of beeswax for packing wounds in place of other dressings and it is found to be a good procedure, the wax being unirritating to granular surfaces. Four years ago Gersuny of Vienna

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

demonstrated the practibility of injecting even large quantities of paraffin and vaselin into the tissues for therapeutic as well as for prosthetic purposes.

I have been using softened gutta percha as a therapeutic measure in bone cavities for a number of years. My attention was first drawn to this feature seventeen years ago by having inadvertently injected too much "chloropercha" (gutta percha dissolved in chloroform) through a pulpless tooth into a blind abscess. A tumor of this material the size of a pea could be felt at the apex of the tooth, and since it caused no inflammation and produced no trouble it was allowed to remain undisturbed; it is there to-day, and has never caused the least disturbance. I believe it is the practice of many dental surgeons to inject this dissolved material through pulpless teeth until it appears at the fistulous opening, expecting the tissues to heal quicker by this treatment than by any other (Fig. 3).

Fig. 1.

Fig. 2.

Fig. 1.—Block of ivory from elephant's tusk, with lead bullet completely encapsulated. n. l., normal ivory; p. l., pathologic ivory; l. b., lead bullet; s., place where section shown in Figure 6 was taken.

Fig. 2.—Block of ivory from elephant's tusk, with iron bullet in pus cavity. n. l., normal ivory; p. l., pathologic ivory; p. c., pus cavity; i. b., iron bullet.

Caseous pus may become encapsulated and remain apparently harmless until finally absorbed.

Trichina in small numbers no doubt could remain indefinitely in the tissues without their presence being known, for they are most beautifully taken care of, as the accompanying picture shows (Fig. 4).

Fig. 3.—Section of bone after recovery from implantation of a dog's tooth in a goat's jaw, ×10. g. p., encapsulated gutta-percha which had been placed in the root canal of the implanted tooth; n. b., normal bone; c. b., cicatricial bone.

Steel needles may wander through the flesh without pain and without apparent damage. Dr. P. S. Conner is authority for the statement that a knife blade may be tolerated in the same manner, and says that iron balls, fragments of shells, splinters, and, in fact, almost any foreign material, if not accompanied by septic matter, may become encapsulated, but also agrees that softer, more yielding substances, which are impervious to moisture, are less irritating.

We will assume then, that, as foreign bodies, certain substances are, *per se*, noxious or innoxious in degrees proportionate to their physical properties. Those that are most innoxious are impervious to moisture and more or less yielding in character. Hard smooth substances like a needle or knife blade may be tolerated, but if they become oxidized or roughened by chemical action they then seem to produce trouble. Hard rough substances of any kind seem more irritating than a soft pliable material, providing the latter be impervious to moisture; pieces of cloth or bits of wood seem especially noxious for reasons which may be explained.

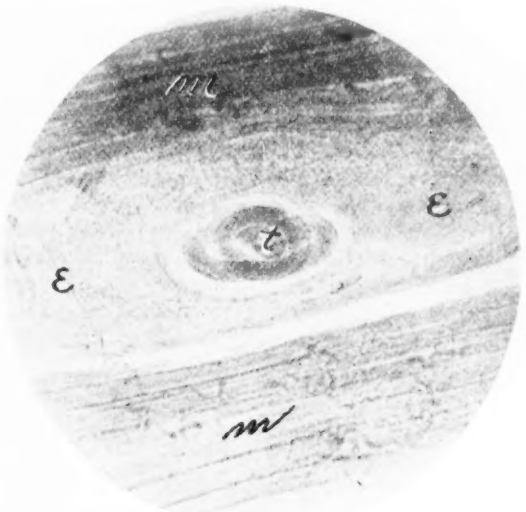


Fig. 4.—Trichina in muscle of a cat. ×50. t., trichina; m., muscular tissue; e., encapsulating material.

Foreign bodies may be classified as extrinsic or intrinsic, according to whether they are forced into the body from without, or whether they were part of the body, or produced within.

Fig. 5.—Diagram from Owen; showing how a bullet lodged in the pulp chamber of a tusk is finally discharged near the point. b., bullet in different positions as the tusk grows longer.

Intrinsic foreign bodies may include dead tissue of any character, sequestra, pulpless teeth, calcareous or phosphatic deposits; these deposits when found about the necks of the teeth are always rough and irritating, and are so situated that bacteria have free access to the irritated tissues.

THE PULP.

In teeth of persistent growth the pulp practically remains one size and is more or less cone-shaped, with its apex directed to the grinding surface and into the long axis of the tooth the base of the pulp is at the source of supply, as shown in the elephant's tusk (Fig. 5). When an injury occurs to such a pulp it has every chance of recovery that other tissues have, because of collateral circulation. If the irritant be an extrinsic body (as shown in the elephant's tusk) it is finally pushed beyond the zone of the pulp (Fig. 5) and the formation of dentin proceeds regularly as before (Fig. 6). This is true of all tusks and the incisors of all rodents.

In mature teeth of limited growth, as found in man, these conditions are reversed; the apex of the pulp is directed to the apex of the root and the blood and nerve supply is limited to the minimum amount necessary to the life of the pulp, so that in case of injury there is no collateral circulation or nerve supply for purposes of rapid repair, such as may be found in other tissues, hence the great number of pulpless teeth in

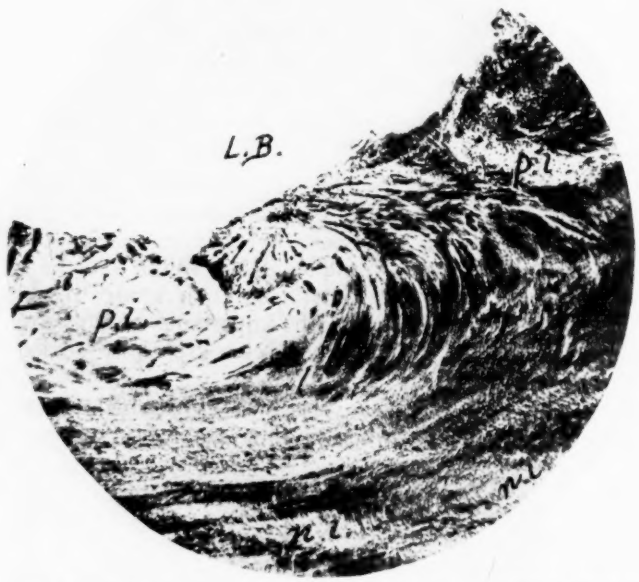


Fig. 6.—Section taken from specimen Figure 1 at place marked s. n. i., normal ivory; p. i., pathologic livery; l. b., surface where lead bullet was in contact with the ivory. ×14.

human beings, where lesions of the pulp far outnumber those of any other animal.

In filling teeth a pulp may be successfully capped with any suitable innoxious substance, providing the capping does not press the pulp. The walls in which this organ is confined being unyielding, any pressure beyond normal produces inflammation, which can not be taken care of as it could in other tissues; this is from lack of ability to expand, as is necessary in inflammation, hence the death of the pulp in a comparatively short time. An exposure of the human pulp or other injury to it, is most prone to its ultimate death, no matter how successfully the capping may have been done, and it would seem that this proneness to die is due to the very limited supply of vessels. Aside from the difference in mechanical surroundings, there seems no reason why this organ should not recover from injury as easily as any other composed of like tissues, for the process of repair here is no different from that of repair in other tissues of mesoblastic origin. The fact seems to be that the process of repair is practically identical in all tissues, the great essential being abundant blood supply.

Decay, fillings, cappings or abrasions, may be looked on as extrinsic foreign bodies, they stimulate the pulp to action, resulting in an effort on the part of this or-

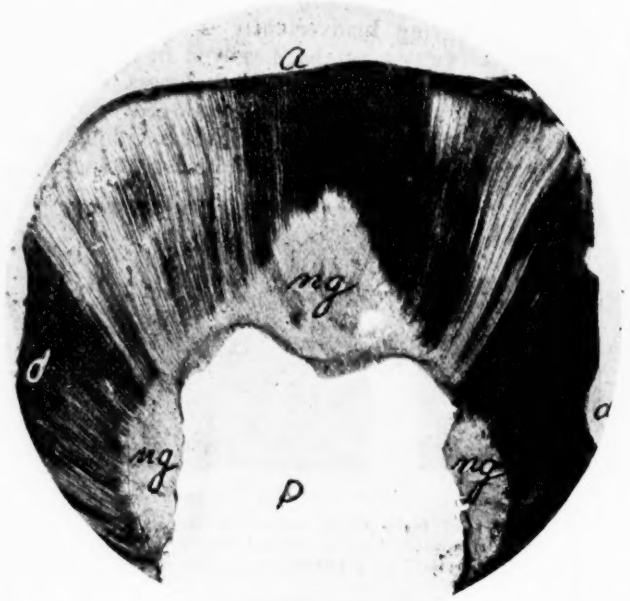


Fig. 7.—Section of deciduous canine. ×14. p., pulp chamber; n. g., new growth; d., decay; a., abraded surface.

gan to protect itself from an enemy or repair damage done.

The peripheral ends of the dentinal fibrils may be considered as a part of the pulp, and any wearing away or destruction of any part of these delicate processes is a lesion of tissue as truly as an amputation or other larger injuries. Irritation to the pulp, which is short of acute

Fig. 8.—Section of permanent canine. ×14. p., pulp chamber; n. g., new growth; n. d., normal dentine; d., cavity of decay.

inflammation and death, usually results in the production of more dentin. This may take the form of nodules, or a protective growth at the pulp ends of the fibrils irritated. These growths are shown in the accompanying tooth sections (Figs. 7 and 8). This effort at pro-

tection, however, often results in death from lack of space in which to work, accompanied with the lack of collateral circulation. Compare these results with that of injury to the tusk. Repair in the latter case is not hindered by unyielding confinement and limited circulation as it is in the former, and restoration is complete. Pulp nodules, in many instances, act as foreign bodies, and end with a destructive result to the soft tissue involved. Adherent new growths, in the pulp chamber, also have similar endings in many cases; the attempt at repair itself defeating its own object.

Chas. B. Nancrede[1] says:

Repair is effected by the same processes in the hard and soft, the vascular and the avascular tissues, the differences being temporary, non-essential and chiefly dependent on physical conditions. Thus, the lime salts render the bone so dense that until they are removed only a limited accumulation of leucocytes and, later, proliferated tissue cells, can take place at the site of injury; yet from the outset, the soft parts of the bone undergo the same changes, in kind, as does the least compact connective tissue. Two forms of repair are usually described, but in reality there is but one, the second variety being at the outset only a modification of the first, caused by disturbing influences; when these cease to be operative the processes of repair tend to proceed as at their inception, any variations from the typical methods being accidental, not essential parts of the process. In the normal method reparative processes commence from the moment the physical disturbance of the part ceases and the bleeding is checked. Here the minimum of reparative material is requisite, and the wound is said to heal by the first intention, by simple adhesion or by aseptic inflammation (obsolete expression), because it is only possible in the absence of infection. Where infection occurs the reparative processes are interfered with and thwarted, reverting eventually to those seen in the absence of suppuration, but vast quantities of reparative materials are wasted, unnecessary tissue destruction results, and the subsequent changes in the excessively developed germinal tissue often cause serious interference with function. Healing is here said to have taken place by granulation or by the second intention, but the end processes are the same in both forms.

When irritation goes beyond that of the mere stimulation of function this description of repair seems to cover every field, at least up to our present knowledge, and especially that of pyorrhea alveolaris.

GUMS AND ALVEOLAR PROCESS.

In the discussion of interstitial gingivitis, so-called pyorrhea alveolaris, the process of repair, as above described, is the important factor, as it is in all lesions, the exciting cause having been determined.

The local destructive metabolism, in this disease, is identical with that of any like tissues. Where constant ineffectual efforts are being made to extrude or absorb noxious foreign bodies we have like results, namely, destruction of much of the surrounding tissues. In gingivitis the foreign body, in the incipiency of the disease, is nearly always calcareous deposits.

To Talbot more than to any one else is due our most intimate knowledge of this disease; his extended researches and observation of the disease in man and animals, and his experiments on dogs, bring the matter close under our observation. In his conclusions[2] he says:

The mass of evidence previously presented demonstrates that the causes of interstitial gingivitis are divisible into predisposing causes (which may be subdivided into local predisposing and constitutional) and exciting causes. The exciting causes are either constitutional or local, but as a rule are local or have local action.

The predisposing factors of this disease, as already mentioned, are: conditions of jaw evolution, transitory nature of certain structures, degeneracy and conditions of previous irritation and inflammation.

In his mercurialization of dogs for the study of the production of the disease by drugs (page 117) he says: "Care was taken to secure those in health and with healthy gums."

I should deem it a practical impossibility to know that there was absolutely no deposit about the teeth of these dogs and think it fair to assume that there must have been some deposits, however small; since domesticated dogs, like men, all have calcareous precipitations about the teeth to some degree, it may not be malignant in its tendency until the etiologic moment has arrived, the other factor being lessened resistance by other morbid systemic conditions.

Slight irritation from calcareous deposits may remain *statu quo* for years and finally a general morbid condition arrives, or rises to such a pitch that pyorrhea alveolaris or other advanced conditions of interstitial gingivitis are produced. The inflamed condition of the tissues about the teeth in interstitial gingivitis, it seems, is simply a continual effort at repair, which repair can not be accomplished on account of the presence of calcareous deposits, or the phagadenic progress of a pus cavity about the roots, the pyorrheal stage. Thus it happens in these cases, as in others, that Nature thwarts her own object in her attempt to accomplish it, and destroys much of the surrounding tissue.

My conception of interstitial gingivitis is that it is essentially local in its exciting cause, and that it only has systemic symptoms for the same reasons that other lesions may have auto-intoxication as one result. There seems no reason to believe that drug poisoning or other morbid systemic conditions can produce interstitial gingivitis without a lesion of the gum pre-exists; this lesion may be the merest break in the mucous membrane, caused by the smallest deposit of this irritating material, this local mechanical irritation being one requisite of the etiologic moment. On the other hand, there may frequently be found in gingivitis the systemic disorders accompanying cases of sapremia and septicemia.

The continual pressure against the gum tissues of rough irritating calcareous deposits, which continuously increase in quantity and insinuate themselves deeper and deeper beneath the soft tissue, are accompanied with all the products of repair by granulation, or second intention, as described by Nancrede, and may be accompanied with surgical fever. These deposits may be found wherever saliva can penetrate. It has never been my privilege to see deposits of tartar about the necks of the teeth that were innoxious, but they are always irritating to some degree, and usually greatly so. This condition may exist in all stages, from that of being imperceptible to the naked eye, up to a complete state of pyemia, and may result in death.

In one case which came under my observation death resulted. The culminating cause in this instance was no doubt due to the exposure of more bone by the extraction of a molar, while the gums and alveolar process were in the worst possible state. When the patient was presented, exfoliation was going on and much bone about the teeth was exposed, the patient having a high septic fever. The septic condition was recognized and advice given against extraction. The patient, however,

1. Roswell Park: Treatise on Surgery, p. 350.
2. Interstitial Gingivitis, p. 148.

was suffering greatly with a lower first molar and went elsewhere to have the tooth removed. I was called again later, but the patient was past recovery and died within ten days after the extraction.

There is abundant evidence to show that auto-intoxication, or a low state of health from any cause, greatly favors the progress of the disease, and with this state of affairs present, a chronic pus-forming condition may soon be found about one or more of the teeth where the local exciting cause exists, but that autointoxication or other systemic disorders cause this disease, without local irritation, does not appeal to the writer's reason any more than to say that the same disorder causes inflammation of the pleura or conjunctiva without a local point of least resistance from local cause.

Degeneracy or faulty development may bring the etiologic moment at a very early stage of the local irritation. This might be almost coincident with the initial lesion, whereas in normal and healthy individuals the pyorrheal stage, even in its mildest form, may be deferred indefinitely, or never appear even where calcareous deposits are excessive.

The fact that the tissues involved are transitory in nature does not seem an adequate factor in accounting for the disease, as suggested by Talbot, since they are as transitory in cases where the disease does not exist as where it does, and these tissues recover as readily as other structures which are not transitory.

There seems no question but that calcareous deposits about the teeth should be looked on as noxious foreign bodies and that the constant effort on the part of the tissue to extrude them results in the progressive death of the surrounding tissue. We find in this disease zones of granulation tissue, with the result of destructive metabolism in the soft tissues and the creation of sequestra in the bone. This condition, however, is changed to constructive metabolism the moment the tartar, sequestra or other local irritants are removed.

SEQUESTRA.

The removal of sequestra by Nature is described by Roswell Park as follows:

> A sequestrum may include an entire bone, shaft or ephiphysis, or only a small fragment. A given portion of the bone, having lost its vitality, becomes properly a foreign body which the surrounding tissues endeavor to extrude or to wall off and surround. The extrusive effort is the one which is usually seen. This is done by the continued presence of granulation tissue, which gradually perforates the surrounding bone at places of least resistance, the result being the slow formation of a sinus or several sinuses, ultimately connecting with the surface.

This description, from my point of view, is a very good definition of the pyorrheal stage of interstitial gingivitis.

The sinus in the pyorrheal stage of this disease is between the root and the alveolar process, unless the lesion be so deep in some place on the outside of the process that a gingival abscess is formed. In either event the alveolar process is continually bathed in pus, which results in its destruction.

So long as the tartar is present as a foreign body the irritation is continuous and sequestra are formed which are a second source of irritation until they are removed or absorbed.

All these cases will heal by removal of the deposits and sequestra or by the loss of the tooth. The removal of the teeth invariably results in recovery and a patient without teeth, either young or old, can not have the disease, regardless of transitory structures, degeneracy, heredity, drugs, environment, or systemic disease. If lesions of the gums or maxillary bones appear where there are no teeth, it is not interstitial gingivitis, but something else.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago—While it is possible that gutta-percha will be tolerated at the apical foramina more readily than a steel broach, yet to understand the pathology arising from such irritant we must first take into consideration the structures involved. We can not compare the peridental membrane and the alveolar process with other structures of the body. The alveolar process is a transitory structure. The tooth to a certain extent is a foreign body. The alveolar process and the peridental membrane, unlike the other structures, have not come to stay. It is waiting for the least irritation to set up absorption and destruction of the peridental membrane. While it may tolerate gutta-percha better than metal, in either case the irritation produces absorption and destruction. It will not encapsulate foreign substances like other tissues. I have demonstrated this many times in many ways. Neither can we contrast a pulp like that of a human tooth with that of an elephant's tusk or a pulp that is persistent. The pulp is practically a degeneration, even in health. The expansion and contraction is *nil*, hence pulp stones and frequent inflammation result in abscess of the pulp without pain. The restricted portion of the apical end of the root restricts repair. The constitutional causes of interstitial gingivitis have local action because the gums are a secretory structure and because of the transitory nature of the gums and alveolar process; next to the nervous system, they are always the first involved. The arteries, nerves and veins terminate in this structure. They come up against a blank wall or nearly foreign substance, the root of the tooth, hence it may be called a terminal structure. I agree with the essayist that tartar invariably produces interstitial gingivitis, and in that case is entirely local in its origin, but the constitutional variety may best be illustrated in something like eighteen or twenty syphilities that I have had in my practice for a number of years. By local treatment I am able to practically restore the gums and alveolar process to health, and the patient leaves my office after a given length of treatment feeling well, but invariably he returns, sometimes in six months, a year or two years, with marked interstitial gingivitis. What is true of syphilities is also true in consumptives, diabetics and auto-intoxications of all varieties. The calcareous deposits are no doubt irritating to the surrounding tissues. They should in all cases be removed.

DR. A. E. BALDWIN, Chicago—I think we, as a profession, ought to define our premises a little more closely than we do and then we could have much more intelligent and accurate discussion. As, for instance, we speak of degeneracy being a change from the normal. The first essential is to fix on the data for the normal. Without this we would be discussing largely in the dark, because every one's standpoint might be different as to the point taken for normal. The statement has been made that the pulp itself is a degenerate condition. Before I could accept any such statement I should want to know very definitely what is considered normal. The essayist speaks of the tolerance of the tissues for certain things, and mentions an illustration of seventeen years' standing. I think the position taken by the essayist that there is an apparent tolerance is well taken. I had a similar case in my own experience in a left lateral superior incisor. There was no irritation. I removed the substance later and intended to make an examination of it, but in the moving of my office it was lost.

DR. G. L. CURTIS, New York City—The tolerance of the tissues for foreign substances varies according to the nature of the substance. I have in mind the case of a child who stepped on a headless pin, which a physician, when he reached the house, could not find. Three months later the pin came out at the hip. I know a man who has carried one-half of a large aspirating needle in his leg for twenty years. It had

evidently lodged against the bone and did not take the usual course of passing through the soft tissues. I suggested the use of the *x*-ray, but he said he would be more comfortable if the needle were not found, as he was in good health. I can not agree with Dr. Talbot as to the tooth being foreign substance, unless he considers the tooth a degenerated foreign substance. I believe that when the tooth is developed it begins to degenerate. I think gutta-percha is better tolerated than any other substance. I believe some instructive lessons might be gained from the use of the *x*-ray. The syphilitic phase of interstitial gingivitis is one that has interested me for many years. I have felt that many, if not all, the recurrent cases of gingivitis are due to syphilis. When the inflammatory process returns, following thorough local treatment, I have found that the cases usually do well under syphilitic treatment, and in a great many such cases I have proved beyond doubt the presence of syphilis. It is not always acquired by the patient, but is sometimes inherited. We know that the child of a syphilitic parent has syphilis. These cases are perhaps the most difficult to treat because of the lack of definite history. I have gained my knowledge more particularly through the study of blood. The germ or spore of syphilis is detected in the blood. Dr. Rhein told me recently of the author of that discovery, and I have known for some ten years that it was possible to find the spore of syphilis in the blood of syphilitic patients. I believe that wherever I find the syphilitic spore the patient bears the mercurial treatment well, and if placed on very mild preparations of small doses of the red oxid of mercury he improves. I usually give a sixteenth of a grain three times a day, increasing it to one-fourth and continuing until the spore disappears. If the treatment is persisted in for months one can eliminate the degenerative condition which maintains syphilitic gingivitis.

DR. M. L. RHEIN, New York City—We have at times been accustomed to the use of terms that were rather exaggerated, and I was very much pleased to hear Dr. Fletcher make use of the term "sapremia," instead of septicemia. I am convinced that we see very few cases of real septicemia, and that the one case he cited is a distinct exception to the general run of cases which are sapremic. From a surgical standpoint I take exception to the view of the essayist regarding the after-effects of extraction of a tooth under the circumstances cited. I can not conceive of a case of this nature in which surgical interference can be objectionable or be a potent cause for evil.

The essayist's view that the extraction of this tooth may have had considerable bearing on the fatal ending of the case seems to me contrary to all accepted surgical principles. Furthermore, it brings up the question frequently met, whether because of the presence of pus it is not advisable to delay the extraction of a tooth. This is a question well worth consideration. My clinical experience with the use of gutta-percha leads me to believe that it is tolerated in the most remarkable manner by the soft tissues. I could cite a number of interesting cases bearing out this view. If there is a substance which the tissues will tolerate more freely than gutta-percha it is perfectly fused porcelain. This has been demonstrated by the wonderful tolerance shown by the tissues around a porcelain root after the amputation of a necrosed root in one of the multirooted teeth and the attaching of a porcelain root to the crown. I am totally opposed to the extreme views that Dr. Curtis takes, that almost all cases of recurrent pyorrhea or interstitial gingivitis will show a distinct syphilitic origin and that the syphilitic germ can always be demonstrated in the blood. Dr. S. Lustgarten has the credit of making this discovery twenty-five years ago, but it is well-known that the matter is disputed at the present day.

DR. HANS PILCHER, Vienna—Beside gutta-percha, paraffin is well tolerated, as the surgical use of this substance shows. Dr. Trauner of Vienna has used it with success for the filling of old cavities with open foramina before the development of the teeth is completed.

DR. CURTIS—I think the question of extracting the teeth in the presence of inflammatory processes would depend entirely on the individual case. In this case I have no doubt the extraction did much to hasten the fatal ending. I think there was an acute inflammation established by infection of the fresh wound caused by the extraction of the tooth. I therefore believe it better to temporize with these cases and try to tolerate this inflammatory process until the greater part of the trouble has been disposed of. Ordinarily speaking, I think the extraction of these teeth is wise, but never when the extraction is liable to extend the inflammation.

DR. GEORGE F. EAMES, Boston—When Dr. Talbot said that when we consider the tolerance of foreign bodies in these tissues we must take into consideration the structures involved, he might well have said also, that we must take also into consideration the general condition of the patient himself. It seems to me that this explains the very great difference in patients tolerating, not only foreign bodies, but all toxic irritating substances. As to the extraction of teeth in the condition named by the essayist, while it would seem that the surgical principle of removing the irritant at once could obtain in most dental cases, yet we have on record a number of cases in which very serious results have followed the extraction of teeth, when infection had extended from one tooth to another, causing their loss and resulting finally in death. I believe this must be due to fresh infection of a surface reopened and that there is some truth in the statement that we should get rid of the infection by some other means.

DR. M. L. RHEIN—I certainly feel from considerable observation that all such cases are due, not to the extraction, but to the faulty surgical treatment.

DR. W. E. WALKER, New Orleans—I think that death is not due to extraction, but to the faulty technic. Who can say in many cases that death would not have resulted had extraction not been done? In many of these cases of suppurative osteomyelitis, simply removing the tooth is not sufficient. The marrow of the bone is permeated with pus and should be treated. The whole mouth should be treated with antiseptics and the socket should be injected with antiseptics. Considering the tooth as a foreign substance, as Dr. Talbot has said, and being the cause of gingivitis, I think is putting the cart before the horse. I believe if we were to use the word inflammation more carefully and not consider as inflammatory conditions those which are simply passive hyperemia, we would be more correctly understood. In early stages of so-called interstitial gingivitis or Rigg's disease I believe the tooth is not an irritant primarily, but that the disease is due to some local or constitutional condition together with lack of exercise. In the majority of cases we have an accumulation of venous blood and because there is not the normal stimulus due to mastication the faulty general circulation becomes more manifest in the gum tissue. This passive hyperemia keeps the tissues overfilled with blood which does not contain sufficient oxygen for the tissues. We know that the cementum contains numerous layers which have been put on during the life of the individual. This, I think, seems to demonstrate the fact that the fibers of the cementum have but a limited life, and that additions of fresh cementum are necessary to entangle fresh fibers to hold the tooth. The connective tissue is exposed and we have an oozing of serum which is rich in lime salts. Precipitation of these salts occurs and there is then the additional mechanical irritation of the calculus so formed, which is not the cause of the separation of the tooth, but the result.

DR. E. S. TALBOT—Dr. Walker misunderstood me. I did not intend to say that the tooth as a foreign body produced irritation. It acts somewhat as a blank wall.

DR. M. H. FLETCHER—Dr. Talbot's position as to the transitory condition of the alveolar process should apply equally well to the hair and nails and to tubercles of bone produced by the pulling of muscles at their attachment. The form of any bone in the body may be changed by continuous pressure as well as the alveolar process and yet the former is not considered transitory. If the human nail is not transitory why is it not like the baboon's, twice as thick? The alveolar process and teeth are called transitory structures, but I fail yet to see why they are not susceptible to repair as long as they are alive. It seems to be a fact that the organisms of the uni-

verse are losing certain structures for the benefit of the organism itself, but I have failed to be convinced that the transitory structures, as such, need necessarily be subject to disease more than other structures. The matter of production of interstitial gingivitis by medicines, syphilis or by other systemic causes seems to me so difficult to prove that I take the opposite view until it is proved. While I admit that those who have spoken have reasonable grounds for their opinions, I feel that I have reasonable grounds for the opposite. My paper did not give sufficient details about the death from extraction. The gums and the alveolar process were in the worst possible state, there being a gangrenous and sloughing condition about all the teeth. It is possible, as Dr. Walker suggests, that the patient would have died without the extraction; but knowing the case as I did, I believe had the treatment been temporized, as suggested by Dr. Curtis, the life might have been spared. The railroad surgeon having this case in charge was originally treating it for acute tonsillitis.

DR. RHEIN—Do you suppose, with the condition of the worst possible kind, that after removal of the tooth, if the proper germicidal agents were kept in that socket for a sufficient length of time, there would be any possibility of infection in that particular case?

DR. FLETCHER—I believe it is practically impossible to sterilize an open bone wound unless all dead bone is removed. The deeper one scrapes, the larger the blood vessels which are opened. I think the extraction of the tooth, with the addition of this zone of uncovered bone to the already septic condition, turned the case downward instead of toward recovery.

ARTHRITIS DEFORMANS.

THE REPORT OF A SERIES OF ONE HUNDRED AND TEN CASES FROM THE JOHNS HOPKINS HOSPITAL.

(FROM THE CLINIC OF PROFESSOR OSLER.)

THOMAS McCRAE, M.D., M.R.C.P. (Lond.)

THE JOHNS HOPKINS HOSPITAL.

BALTIMORE.

(*Continued from page 8.*)

DIAGNOSIS.

Undoubtedly an essential thing in a correct diagnosis is a knowledge of the fact that arthritis deformans often occurs as an acute polyarthritis, with a sudden onset, and that unless care is taken the condition is especially apt to be regarded as acute articular rheumatism. Here, as is usually the case, knowledge of the possibilities is an essential to correct diagnosis. It may be taken for granted that the advanced stages with the marked characteristic deformity are not likely to be mistaken, but of what value is diagnosis then when the possibility of preventing these later changes is the hoped-for thing? Practically, the study of the diagnosis will be confined to the early stages. The more acute forms have to be diagnosed, especially from acute articular rheumatism, acute gout, acute polyarthritis from other causes (for example, septic conditions, etc.), and gonorrheal arthritis.

Acute Articular Rheumatism.—There are several features that give one help in the diagnosis: the first, it may be said, is the knowledge of the two diseases. The polyarthritis of arthritis deformans rarely shifts from joint to joint. When the joint is once attacked, it rarely clears up suddenly. One seldom sees the rapid disappearance of arthritis in a given joint, which is so characteristic of rheumatism. The joints rarely show the severe local tenderness of rheumatism. There may be redness, but it is rarely extreme. The swelling is often marked, but in many of the joints it is distinctly more in the surrounding structures than in the joint itself. There may be effusion, especially in the knee joints. Certain joints are often involved which are rarely concerned in rheumatism, especially the joints of the neck and the temporomaxillary joint. The involvement of the fingers is often especially characteristic. We may find that only two fingers are involved, very commonly the middle or ring fingers, or it may be the first finger and the thumb. There is a curious appearance often given by the fingers, really the early stage of the "fusiform" condition. This we have found of considerable help. The temperature is usually not very high, and it may seem low in proportion to the amount of arthritis. The pulse is nearly always above normal. If this persists after the subsidence of the acute features, it is a very suspicious factor. The enlargement of the lymph glands, especially those associated with the affected joints, speaks for arthritis deformans. The absence of cardiac involvement and the usual lack of any help from the use of salicylates, is often an important point. Another suggestive fact is the common rapid muscular atrophy. Undoubtedly in prolonged cases of rheumatism one sees considerable atrophy, but it rarely appears with the rapidity that it does in arthritis deformans. The early atrophy of the interossei muscles is especially to be noted. The exaggeration of the reflexes is a point to be kept in mind. Then, too, the case is apt to drag on, the temperature perhaps remaining at 99 F., or slightly over it, the pulse rate increased, and the joint symptoms persisting. This is always suspicious, and in case of a diagnosis of acute rheumatism, should always lead to a careful re-examination of the case. If after the acute symptoms are over joint deformity or alteration persists, one should always reconsider a diagnosis of acute rheumatism.

Acute Gout.—This is not likely to be a frequent cause of difficulty, but it is a possibility. The common alcoholic history in such patients, the attacks usually clearing up rapidly and leaving little damage in the joints, and the results of uric acid estimations, should all prevent error.

Gonorrheal Arthritis.—This is likely to give difficulty in diagnosis only where several joints are involved. If one cultivates the habit of always keeping gonorrheal arthritis in mind, and searches carefully for gonococci, there is not likely to be much possibility of mistake. In all doubtful cases of polyarthritis one should cultivate a "suspicious" frame of mind toward the diagnosis of acute articular rheumatism, and make it not first but last, and after other conditions have been excluded.

From various unusual joint conditions there would seem to be little difficulty in distinguishing arthritis deformans, and this group does not require discussion.

One is much impressed in going over the histories of our cases with the very common diagnosis of acute rheumatism made in the previous attacks. Often there are little facts mentioned which are enough to clear the diagnosis. Thus, several patients have said that their doctor commented on the fact that they had acute articular rheumatism with very little fever, or that they had a great deal of thickening left about the wrists or hands after their rheumatism. It is a good safe rule always to hold grave doubts as to the correctness of the diagnosis of acute rheumatism when there are permanent changes left in the joints after the acute attack is over.

Regarding what may be termed early minor manifestations of the disease, I do not know that any one has written better than Dr. Spender, in the article in "Allbutt's System of Medicine." There may be merely vague pains about the ankles or wrists, or the patient may complain of pain in one joint perhaps associated with some

injury or a sprain. There may be some weakness of the wrists or hands. There may be curious neuralgic pains about the joints. As Spender says, these should always attract careful attention, and a thorough examination should be made. Of some of the other special points in the diagnosis to which Spender drew attention, note may be made. He emphasizes especially the rapidity of pulse. This, as we have already said, seems an important point. The various areas of brown pigmentation, especially on the face, neck and forearms of which he speaks, have not been of any especial assistance, and there would seem considerable doubt of their distinct association with the disease. The coldness and sweating of the hands do occur frequently, but it is probably more often associated with neurotic conditions, by no means a rare accompaniment of arthritis deformans. As Spender says, the diagnosis of rheumatism, muscular rheumatism, sprains, etc., are all pitfalls into which we are too apt to stumble.

TREATMENT.

In the discussion of this matter we are again met with the fact that there are two great groups of cases, the early and the late. The treatment in the first may undoubtedly be of great help as a preventive measure of farther damage. In the latter condition it can be only palliative, although even here much good may be done. We may first discuss the treatment of an acute attack. Patients are better at rest, and probably it is well to keep them clothed in flannel. If there be much fever the diet should be liquid. Ordinary attention should be given to the bowels. For remedies for the pain we have found that salicylates are of comparatively little use. Antipyrin in doses of 5 grains is often effectual. Guaiacol is highly recommended by some. Small doses of codeia may be used; morphia seems to be rarely required. Of local measures to the joints the ice bag sometimes gives considerable relief, or the wrapping of the joint in cold compresses surrounded by oiled silk. These may be kept on constantly. Oil of wintergreen or lead and opium lotion applied locally is of some help. The hot air baking very often gives relief to the pain. Gentle massage may be of use. In spite of all measures, in some cases the patient is but little relieved. After an acute attack, whether the patient be absolutely free of symptoms or has some damage left in the joints, the great principle of treatment seems to be keeping up the nutrition. The patients should be out of doors as much as possible. They should be given all the nourishment they will take, and this of a general kind. The mistake is too often made in considering these patients to be rheumatic or gouty, and meat is almost totally cut off. On the contrary, a full meat diet seems especially helpful. They should be given nourishment between meals and at bedtime, and every effort made to improve their general condition. With this, of course, local derangements are to be carefully treated. Carious teeth and pyorrhea alveolaris should receive attention. Any stomach or bowel disorder should be remedied, and every endeavor made to keep the patient under the most favorable conditions. General massage is usually helpful. Concerning the various forms of bathing no general rule can be laid down. In England there can be little doubt of the benefit of such waters as at Bath. In this country, while some patients are doubtless helped by the bathing, many others are made distinctly worse. That this is due to too prolonged hot bathing to the point of depression may be possible, but our cases rather suggest that great caution should be exercised in advising, at any rate, any severe course of baths.

The local treatment of the joints is very important. First comes massage, which in the beginning ought to be given by an assistant. But as a general rule later on the patient should be encouraged, as far as possible, to rub himself. There is usually the double benefit to the joint rubbed and to the hand employed. The hot air treatment is especially useful in many of these cases. The oven may usually be heated to 350 F., with perfect comfort to the patient, the importance of short applications being always kept in mind. Probably the majority of cases are helped most by periods of only twenty to thirty minutes in the hot air bath, and periods of an hour and an hour and a half are undoubtedly, in many cases, positively harmful.

The question often arises as to the amount of use that should be made of the affected joints. Leaving out the acute attacks, as a general rule, the more the joints are used the better. The mistake is often very serious when the patient is put to bed and any attempt at using the joints discouraged. The benefit of use is well shown by the temporomaxillary joint, which, although frequently involved, relatively rarely shows permanent damage. These measures may result in great improvement, even in a far advanced case, as, for example, in Case No. 70, that of a woman who for eighteen months had been bedridden, had been unable to feed herself, and who had some teeth pulled in order to be fed. After three months of treatment she was able to walk moderately well, could dress and feed herself, and open the mouth fairly well. Such cases are, of course, not common, but they serve to show that the outlook is not always without hope. There are two things necessary, probably both in the physician and in the patient. These are perseverance and patience. There are probably few cases, even of advanced disease, that can not be at any rate helped by persistent, patient, systematic treatment.

By far, however, the more important group, as regards treatment, are the early cases. As has been stated, too often these are regarded as rheumatism for long periods, until the damage is done. In these, when recognized early, the most important element in the treatment seems to be good nutrition. General good hygiene, lots of fresh air and sunlight, and an abundance of good food are essential. Great care should always be taken to be on the outlook for the slightest manifestations of a return of the symptoms. Every slight infection should be regarded seriously. We are unable to say how successful early recognition of the disease and persistent care may be in preventing late attacks and permanent damage. At any rate, the patients should have the chance.

In addition to all the measures previously spoken of, there seem to be two drugs which are especially useful. These are the syrup of the iodid of iron and arsenic. They may be given alternately or combined, but in any case their administration should be kept up over long periods of time, for months, or if necessary, even years, at intervals.

Surgical Treatment.—This in some cases holds out a hope of benefit. In certain of the cases with marked contractures, the tendons may be divided and the limbs straightened. In other instances, under an anesthetic, a bent limb can be forcibly straightened and put up in plaster for a few days, but it can not be kept too strongly in mind that the best treatment for these cases of contractures is the preventive one. It is not, however, always in our power to carry this out, as the patients frequently delay consultation until permanent contractures have been established. Of excision of the joints we have had little experience, but it is undoubtedly of use

in certain cases. It is probably most likely to be useful in the knee or elbow joint. It may serve to give a more useful limb. In some instances, too, the excision of the joint seems to be justified on account of pain. We see patients suffering with constant severe pain which nothing relieves; excision of the joint frequently gives great relief and the patients are left with about as good a limb as before. In some cases operations on the hip have been of considerable use. It must be said, however, that as yet we have hardly enough statistics on which to draw any definite conclusions on the value of surgical intervention.

It can not be too strongly emphasized that in this and so many other diseases the great requisite to intelligent treatment is proper diagnosis; and this, in the majority of cases, would seem not such a difficult matter if the profession once realized the frequent occurrence of this disease and the fact that it is so often taken for acute rheumatism. It may also be said that prevention is often more possible and certainly more hopeful than cure.

PROGNOSIS.

This is usually rather gloomy. The general tendency of the disease is to progress, but we have to remember that in many cases the disease was never diagnosed until more or less permanent changes had occurred. How much can be done for early cases with early diagnosis we hardly have data to state. Reports have been obtained from 25 of the patients who had been in the hospital over three years ago. Of these only 2 could be described as well, 3 had died from an unknown cause, but only about half the remainder were much worse, 4 were crippled completely and 5 were only able to get about with crutches. The other half were much in the same condition.

There can be no doubt of the necessity of always giving a most guarded prognosis. They may recover, which is unlikely so far as our present knowledge goes, but we can generally only hope to keep the disease stationary by care and perseverance. It is to be hoped that early diagnosis may help the patients of the future.

"STILL'S DISEASE."

To this only brief mention will be given. There is some doubt as to the exact nature of these cases, but at present it seems best to include them among the cases of polyarticular arthritis deformans.

There were two cases in our present series, one a male aged 4, and one a female aged 5 years. They both had rickets, but there was no history of symptoms suggesting congenital syphilis. They both showed the symptom complex described by Still, namely, (1) an arthritis involving many joints, and with more change in the periarticular structures than in the joint itself; (2) an enlarged spleen, and (3) extreme enlargement of the lymph glands.

One patient was discharged somewhat improved, but the other went out completely well—one of the very few instances of recovery from this condition.

These cases seem to suggest an infective cause very decidedly. In the case with recovery the enlarged spleen and glands diminished with improvement in the general and articular condition. It seems most reasonable at present to consider them a type of arthritis deformans.

GROUP III. MONARTICULAR FORM.

These comprise a group of cases about which there is also much difference of opinion. The frequency is doubtful. Probably many of the cases often diagnosed as chronic rheumatism belong here, and also the group termed *Morbus coxæ senilis*. The disease usually occurs in elderly people, one of the larger joints, most often the shoulder or hip, is involved and the general type of change is degenerative. There is usually marked loss of function, wasting of the muscles about the joint, and sometimes ankylosis in the hip joint. In these patients very careful examination should always be made for slight changes in other joints. These may be very slight, but in some of them undoubtedly other affected joints may be found.

There are only 3 cases of the monarticular type in this series. The more chronic cases do not often seek hospital advice. The condition may not seriously interfere with their comfort, and they are content to make the best of it. Curiously enough, two of these cases suggest in some ways an acute onset much like that described for the polyarticular form.

The symptoms may be noted briefly. Two of the patients were females, all were white, the ages were 39, 40 and 50 years. In two the shoulder was involved, and in one the hip. The former complained of pain in the hip and leg. In both the shoulder cases the onset had been rather sudden; they complained principally of pain and difficulty in moving the joint. Later the pain became less, but limitation of motion was left. The third case was more gradual. There was pain in the hip and down the leg, with gradually increasing stiffness.

The symptoms were much the same in all—pain on motion, distinct limitation of motion, crepitus, and some muscular wasting. In one of the shoulder cases the reflexes on the affected side were much exaggerated and normal on the other side. She also showed signs of slight involvement of two finger joints on the other hand. There were also some areas of pigmentation. The temperature in two averaged 99 F., in the third it went up to 100.5 F. The pulse rate in all was about 90.

The diagnosis in these cases may offer some difficulty. A gonorrheal arthritis can usually be excluded, and the greatest trouble generally is to distinguish it from a tuberculous joint. If the characters of the joint involvement do not give the diagnosis tuberculin may be used. We have found it very satisfactory. The finding of slight suggestive changes in other joints is conclusive.

Treatment is usually only palliative. Local measures, massage, wet packs, etc., are often of use, and in some instances surgical measures may give a more efficient joint, especially at the hip. But too often the degenerative changes advance gradually as in the polyarticular form. Every endeavor should be made to keep up the general health.

(To be continued.)

Pulmonary Emphysema from the Life-Insurance Standpoint.—Among the addresses delivered at the Third International Examiners' Congress held at Paris recently, was one by E. Hirtz of Paris on the above theme. He insisted that every subject with pulmonary emphysema with symptoms at the apices and distinct resistance to percussion and whose general condition is only fair, should be regarded as a bad case for insurance. Also every subject with emphysema who registers less than 2,000 c.c. in spirometric tests. The candidate should be absolutely rejected if the difference between the breast measure during forced inspiration and expiration is less than 3 cm. with heart and arteries not in a normal condition. The difference between the breast measure during forced in and out-breathing averages in health 7 cm. This difference drops to 5, 4 and even 2 in case of emphysema. The findings of this test always parallel those obtained with the spirometer. He attributes much greater importance to the latter than to the pneumometer, citing Lermoyez to the effect that "we diagnose emphysema with the ear, but we prognose it with the spirometer."

URETHROTOMY BY THE COMBINED USE OF AN ANTERIOR AND POSTERIOR SOUND USED AS GUIDES,

THE LATTER BY MEANS OF PREVESICAL PUNCTURE WITH A CURVED TROCAR CANNULA DESIGNED FOR THE PURPOSE.

G. W. PENN, M.D.
HUMBOLDT, TENN.

The genito-urinary surgeon or the general practitioner of medicine is confronted with no graver condition in the routine of practice than the fortunately rare impervious urethral stricture, as, with the patient anesthetized and the structures covering the urethral site divided, with or without a Wheelhouse staff or other guide, down to the stricture, he finds it simply impossible to locate the proximal lumen, or anything resembling the mucous membrane of the urethra.

It is a well-known fact that the best genito-urinary surgeons are frequently baffled by this condition, and utterly fail to enter the bladder by the ordinary methods of urethrotomy, with or without a guide. The statement, "with a guide," refers to a catheter or staff introduced via the meatus and extending only down to the stricture, the usual meaning, "with a guide," obviously not being intended, since, of course, no difficulty could ensue if even the smallest filiform could be passed into the bladder.

The Wheelhouse operation has stood the profession in good stead for many years, and especially is this true of the vast majority of surgeons not skilful enough to perform the difficult operation of Cock, and it is in just these cases, especially those in which the latter operation can not be done, and resort is compelled to be had to suprapubic cystotomy, that I propose a procedure to be described presently. Indeed, it seems to me that Cock's operation is never justifiable when it is demonstrated that other methods consuming half the time and offering incalculably less difficulty in performance are at hand; this is also true of cystotomy for the purpose of posterior catheterism, when done simply as a guide.

That we can not explore the perineum of a patient and do extensive dissection of the parts in a vain effort to enter the bladder from below without an unwarranted amount of shock, goes without saying, and has more than once, even in skilful hands, resulted in death from urinary infiltration and sepsis.

The operation of suprapubic cystotomy is very generally used by most surgeons at the present time for the purpose of posterior catheterism in cases impossible of performance by any other means, and it seems to me that it has been to the discredit of surgery that it has been only employed as the operation of necessity, rather than the operation of choice, since the advent of the present era of asepsis has rendered it a safe procedure. I will undertake to show that this operation is indorsed by many men of large experience in the impossible perineal cases by anterior methods, and then having clearly shown the advantage of the posterior or intravesical method, I hope to indicate a method better than cystotomy, in regard to ease of performance, saving of time, avoidance of so extensive trauma, and hence a minimum or absence of shock and a practical elimination of after-treatment as regards the suprapubic wound.

In a paper on suprapubic cystotomy for retrograde catheterism as a guide in these cases, in the *International Journal of Surgery* for October, Howard Crutcher quotes from the personal experience of several men whose statements will be accepted as authoritative, the tenor of whose utterances brings forth no uncertain sound. Since the establishment of the suprapubic route is a matter of such consequence to this unfortunate class of cases, as well as to the good showing of the case records of the surgeon, I take the liberty to repeat some of the quotations as used by Dr. Crutcher in his able and instructive paper, some of which are evidently from personal letters to him. Bernays says:

> I simply got lost, and my only way out of trouble was a suprapubic section, which permitted retrograde catheterism. I make this confession and authorize you to use it in your paper. I will say, in addition, that I have never been in that fix since then, and am a great friend of the Cock operation. I have done Cock's operation over fifty times, always with success, in cases of impermeable stricture. In 70 per cent. of these cases a urethra can afterward be established by the ordinary methods of dilatation. In some of the others a perineal opening may be permanent.

As Dr. Crutcher pertinently says, the success of Bernays' cases can not be taken as the criterion of other less skilful operators. In the same paper he quotes Halsted as saying:

> I can not give you the details, but I know that it seemed to me, at the time, impossible to reach the deep urethra in any other manner. I think that almost every surgeon of large experience in genito-urinary work has found it necessary, occasionally, to resort to this procedure.

Speaking of his two cases, Murphy says:

> Both of these cases were in the acute stage (gangrenous) from the urinary infiltration. One was the result of a physician having attempted to pass a sound; the other resulted from traumatism in the perineum. Both cases had been neglected, and in one the infiltration was so great that the subsequent gangrene destroyed the corpus spongiosum in its entire length, and the urethra from the prostate to the meatus, as well as the dartos and scrotal tissue, so that the testicles were exposed and had to be covered with flaps from the thigh. The final urethral opening was deep in the perineum. In both of the cases the urethral catheter was passed from above downward and perineal drainage instituted. When I was an interne in the County Hospital I saw two cases of this kind operated on by attending surgeons, both of whom performed what is known as Cock's operation, and both patients died.

Valentine says:

> It seems to me a general proposition that suprapubic cystotomy is required in obliterative changes (as from traumatism, urinary infiltration, suppuration) which prevent the finding of the urethra via the perineum. Indeed, I do not appreciate what other recourse one can have in such a condition, when the bladder can not be reached through the urethra.

Lydston says:

> I consider a retrograde exploration and instrumentation via a suprapubic cystotomy much safer than a prolonged and tedious search for the urethra via the perineum. I have been practicing it for ten years. I rarely fail to enter the bladder perineally, but when I do not succeed within a moderate time, I go in above.

Matas says, in part:

> In a large experience in external urethrotomy for stricture, covering over eighty-five cases in fifteen years, I have been compelled to perform retrograde catheterism by suprapubic cystotomy in four cases in all, every time successfully and with the most satisfactory results. In all but one case there were perineal fistulæ, and in all I had to resort to suprapubic cystotomy after failing to find the lost and displaced vesical end of the canal. Notwithstanding prolonged and careful dissection of the perineum, I was led to adopt this procedure after losing a patient in my earlier practice, by attempting to tap the bladder in the perineum by Cock's method. . . .

My success with retrograde catheterism by the suprapubic route has led me to adopt and recommend this as a regular procedure, to be utilized at a much earlier moment in the operative act than I would have adopted in former years. This method is far preferable to a long, exhausting and traumatizing search made in the perineum in difficult cases, more especially in those chronic, neglected cases of stricture in which the perineal and periurethral tissues are riddled with fistulæ and sinuses opening in a mass of hardened cicatricial tissue resulting from periurethral cicatricial abscesses and infiltration. In such cases the urethra is often obliterated for a considerable distance, and the channel is tortuous, deviated and displaced, so that its normal anatomic bearings are lost or unrecognizable. In such cases a filiform can not be introduced and there is no possible guide to the urethra. . . . I claim that it is a most safe and reliable expedient, which should be resorted to much earlier and oftener than is now done in difficult cases.

Such commendation of the suprapubic route from so good an operator as Matas should carry great weight, and surgeons should not permit "Operators' pride" to impel them to a tedious and prolonged dissection of the perineum, impairing the facility of its tissues to assume the functions of the urethra, in those cases in which a new channel is made, and greatly increasing the perineal trauma, with its consequent tax of nerve power and lowered resistance, and hence greater liability to sepsis.

Crutcher's own experience with the suprapubic route is four cases, all of which recovered, and which he says, "appears remarkable when it is borne in mind what an amount of senseless perineal traumatism was inflicted on some of them."

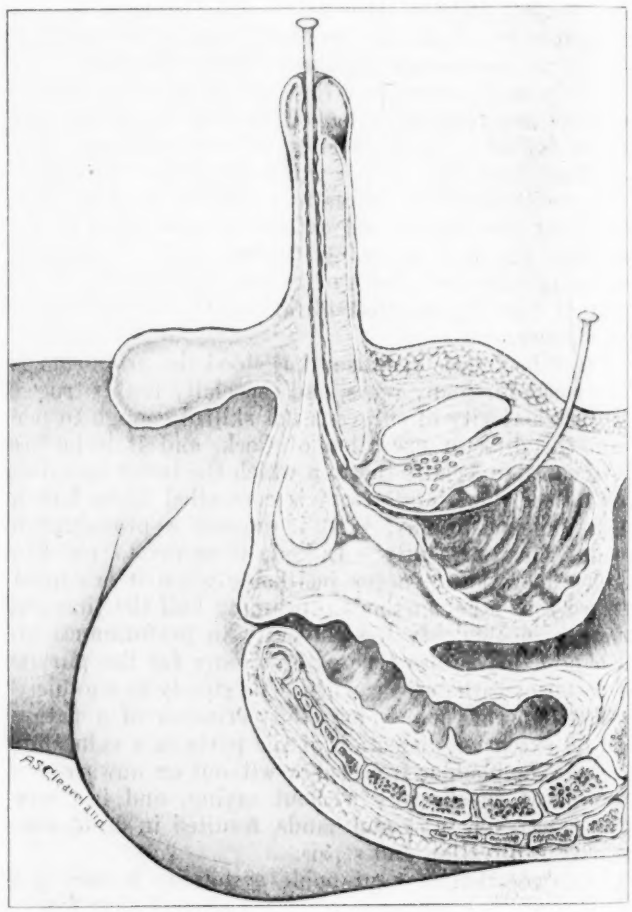
In the American Text-book of Genito-urinary Diseases, Lydston says:

Should it be impossible to pass a guide through the stricture after its anterior surface has been exposed, the urethra may be opened up posterior to it, and an attempt made to pass a probe or bougie from behind forward. Failing in this a dissection must be made from before backward in the normal direction of the urethra. In a case of this kind the author would be inclined to perform suprapubic section and retrograde catheterism. This procedure has on several occasions been invaluable to him.

While it is true that some operators of large experience have never met cases in which there were complications compelling a resort to the upper route, the testimony of those quoted is sufficient to establish beyond cavil the comparative frequent occurrence of such cases. I believe the use of a posterior guide is neglected far too often; even though it could only be done by suprapubic section; but when it is shown to be perfectly feasible to thus certainly locate the urethra by suprapubic puncture, with no more trouble and no more danger than a simple palliative aspiration of the bladder, neglect of a means so available converting one of the most tedious and difficult operations in surgery into one so simple and easy of performance that a tyro can do it, is certainly a reprehensible omission.

My experience with suprapubic puncture for this purpose is confined to two cases, but the results of both were so perfect, and the cases, which were both due to extensive trauma, and to which I had gone realizing the prospects of trouble, born of a knowledge of the usual difficulties, were converted into so simple a problem that I wondered at my previous trepidation. The adoption of prevesical puncture for posterior catheterism as a guide was largely the result of accident—at least, its employment was not the outcome of systematic study of the question, it never having occurred to me to think of any other alternative should I meet a case of impermeable stricture not operable by other means than suprapubic section. I will describe the case in which, on Sept. 20, 1899, I first used the measure under discussion.

The patient was a negro man about 55 years old. He had received an extensive injury to the perineum by falling astride a wagon wheel while attempting to jump from the vehicle. A ragged laceration of the urethra resulted, accompanied by general inflammation of the periurethral tissues and perineum. Retention of urine was complete for twenty-four or forty-eight hours. I did not see the case until four months after the accident, and in the meantime an external urethrotomy was done by the Wheelhouse method; the operation, however, afforded only temporary relief, not being followed, as it should have been, by the usual dilatation with sounds. At the time I saw the case retention was complete, and tapping had been resorted to the two previous days.



Prevesical puncture as a guide, seen in sagittal section.

The perineum presented a very swollen, fistulous surface, with pus discharging from several places. I felt sure that the scars from the original wound, supplemented by those of the former operation and the present infected and misshapen condition, would make an entrance into the bladder from below impossible, and, while considering the case, the patient demanded relief from the distended bladder, which was paining him very much. Realizing that I would have to repeat the vesical aspiration, it occurred to me that I could use the cannula as a passage or pilot for a post-urethral guide, without resorting to section, and the unsanitary surroundings led me to believe that this would be less liable to cause infection and would also expedite the performance of the operation very materially. With this idea in view, I bent an ordinary cannula of medium size, similar to those accompanying a Pravaz aspirating syringe, with the trocar *in situ*, thus preserving a pervious and uniform caliber throughout. The curvature was slightly less than that of a urethral sound, since I believed that any discrepancy between the urethral curvature

and that of the cannula could be overcome by the facility with which the position of the cannula itself could be shifted, owing to the great degree of invagination above the pubis the mobility of the abdominal wall would permit, and which also constituted the fulcrum at the point of puncture. I inserted the trocar and cannula thus prepared, aspirated the urine, washed out and refilled the bladder with salt solution as an aseptic precaution and also to prevent collapse of the vesical walls, impeding catheterization, and, grasping the penis, that the urethra might present as few obstructing folds as possible, a long silver sound, bent in its entirety to the same are as the cannula, was introduced, and it immediately dropped into the dilated proximal urethra; the usual dilatation of the urethra, posterior to the stricture in these cases, augmented greatly the ease of the procedure. Another sound was held in position in the penile urethra, as is usual in external urethrotomy. The penis was held in an extended position by an assistant, and the ends of the two sounds could be distinctly felt in the perineum, separated from each other about an inch and a quarter. An incision was made between the two, a catheter introduced, all pockets laid open, cleaned and drained, and the wound simply dressed with gauze, owing to the bad and suppurating condition of the parts. The little puncture in the anterior bladder wall demanded no dressing, it amounting, of course, to no more than an ordinary puncture for the relief of distended bladder. Considering the bad condition, the patient made a rapid recovery and got well with a fairly good urethra. Ether was the anesthetic used in this case.

My second case was very much like the first, except that there was no suppuration and no fistulæ, and while I could not pass a very small filiform, it might have been done after rest in bed, hot fomentations, and the usual preliminary treatment in such cases. My previous success with suprapubic puncture, however, rendered me optimistic about the case, and I felt convinced that the simplicity of the operation made it by far the more conservative course to pursue. Local anesthesia with cocain was used. No difficulty was experienced, and a catheter was introduced and the skin and musculature sutured over it.

The only special precaution necessary in this operation is to see that the bladder is distended with urine before making the puncture, so that the peritoneum will not be endangered; but as relief from the pain of distention is one of the urgent symptoms for which the operation is primarily done, the risk of puncturing an empty bladder, and possibly injuring thereby other structures, is very small, even though no special attention is given the matter.

The danger of urinary infiltration or sepsis following prevesical puncture is reduced to a minimum; the small opening in the bladder made by the trocar, smaller even than the instrument itself since fewer fibers of the bladder wall are cut when that viscus is distended, than would be the case if empty, and hence a more complete closure of the opening following contraction, and, of course, less liability of leakage, which is made still more improbable by the dorsal decubitus, a position that should be maintained for forty-eight hours for this reason, and also to favor thorough drainage through the perineal wound or *per via naturale,* as the case may be.

I appreciate the fact that two cases, or two dozen, would be inadequate from which to deduce conclusions ordinarily, but the opportunities for treating these cases are not numerous in one man's experience, and one case demonstrates as well as a hundred the principle involved, viz., the practicability of entering the urethra by means of a curved cannula.

Now it seems evident to me that the far greater simplicity with which this operation is done makes it much preferable to the more complicated section, which entails more trauma, loss of time, danger of infection and requires more skill in performance and trouble in after-treatment, except, perhaps, in the rare cases complicated by cystitis of so severe a type that suprapubic drainage is necessary. The number of such cases, however, that can not be more successfully drained through the perineum is very small, the dependent position of the latter route making it more effective for the purpose.

I believe the time for groping in the dark in the attempt to enter the bladder by means of the Cock operation, or even Wheelhouse's method, is at an end, the internal guide so easily obtained by simple puncture, so simplifying the cases as to render the more difficult methods undesirable. To those who practice eustachian catheterism this will be perfectly patent, since the technic of the procedures is strikingly similar, the cannula representing the narial passage and the entrance to the urethra the eustachian meatus; retrograde catheterism of the urethra by the cannula is, however, much the easiest of performance, being but little more difficult than the now obsolete method of female catheterism without sight. Of course, cases admitting even the smallest filiform without too much delay in preparation afford the necessary guide and are readily dealt with by the Syme operation. I would only enter an earnest plea for the frequent adoption of retrograde catheterism in cases of impermeable stricture by the suprapubic puncture method, since it has, in my hands, converted a formidable and difficult operation into one of simplicity and ease.

Sudden, Non-Traumatic Blindness.—Laquer observed in 5 cases during the last six months sudden blindness from a different cause in each. In one it was the result of hemorrhage into the vitreous from a vascular affection on a basis of albuminuria. The prognosis was deemed to be unfavorable and the results confirmed this assumption. In other cases the cause was embolism, or retrobulbar neuritis, anemia from prolonged hemorrhage or preretinal hemorrhage. The embolism in the central artery was correctly diagnosed as the ramifications of the lower branch of the artery were nearly obliterated when first seen eleven weeks after the blindness had suddenly developed. No other cause could have reduced their diameter to such an extent in such a brief space of time. Treatment was ineffectual. The prognosis was announced as favorable in the case of retrobulbar neuritis on a probably rheumatic basis. The improvement under the salicylates and the gradual return of the primary pupil reaction before vision was restored corroborated this view. The patient was a young girl who had suffered from rheumatic pains in arms and shoulders. She took in all 60 gm. of potassium iodid in about two months. The blindness had come on suddenly and was complete, but vision was completely restored in two months. In another case a young girl "took cold" returning home from a ball in winter, and the next day she could scarcely see with one eye, the disturbance increasing to nearly complete loss of vision. Recovery was obtained in this case likewise in the course of two or three months under sodium salicylate for a few days followed by potassium iodid. In still a third case he witnessed restoration of vision after unilateral blindness from retrobulbar neuritis, although a year elapsed before the patient was entirely cured. In the case of loss of vision in one eye from anemia the blindness was permanent, and Laquer remarks that he never knew a case of this kind to terminate otherwise. His article is published in the *Klin.-therapeutische Wochenschrift* X, No. 23, 1903.

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DEATHS OF THE YEAR 1903.

In THE JOURNAL of Jan. 10, 1903, were noticed the deaths of 1,400 regular practitioners in the United States. During 1903 the deaths of physicians in the United States and Canada numbered 1,648.* This is probably within 5 per cent. of the total mortality in the medical profession of North America. The number of physicians in this country can only be estimated, we are sorry to say, but a close estimate would place the number at 120,000.

In 36.6 per cent. of the cases no cause of death was given or the cause alleged was incorrect or incomplete. Heart disease, which undoubtedly includes a number of cases of sudden death and cases of so-called "heart failure," was given as the cause of 163 deaths; pneumonia stands first among the legitimate causes of death, with 109; tuberculosis caused 89 deaths; nephritis 84 deaths; paralysis, which is relatively indefinite, is reported as having caused 96 deaths; apoplexy, another relatively incorrect term, 60 deaths. Accidents of various kinds caused the death of 71 physicians. Of these, 8 were due to drowning, 16 to falls, 11 to poison, 5 to burns, 5 to runaway accidents, 14 to railway accidents, and 4 to street-car accidents. Nine physicians were murdered; there were 24 suicides and 1 case of justifiable homicide. Among other principal causes of death are typhoid fever, 48; septicemia, 21; appendicitis, 26; cancer, 27; angina pectoris, 18; diabetes, gastritis and rheumatism, each 10; meningitis, 16, and uremia, 15.

Of the 1,648 deaths of the year, 147, or 8.9 per cent., were members of the American Medical Association. The extreme limits of age were 21 and 101, 2 deaths occurring at the former and 1 at the latter age. The maximum of deaths occurred at 65, at which age 47 physicians died. Next come 60 and 78, with 36 deaths; 62, with 35 deaths; 70 with 34 deaths; 75, 73 and 45, with 33 deaths. Above the age of 90, 15 deaths occurred.

The years of practice varied from the first to the seventy-fifth year. In 181 cases, or 11 per cent. of the total, the length of practice was not stated. The greatest number of deaths occurred in the twenty-fifth year of practice, in which 51 were recorded. In the twenty-eighth year, 40 were noted; in the thirty-third year, 39; in the twentieth and thirty-seventh years, 37; in the twenty-first year, 36; in the thirty-fifth year, 30; in the twenty-ninth and twenty-fourth years, 32; in the nineteenth, twenty-fourth and twenty-ninth years, 32; and in the twenty-seventh year, 31, and in the thirty-sixth and forty-fifth years, 30. Of the entire number, 209 physicians had practiced more than half a century, and 2 had been in practice seventy-five years at the time of their death. During the year of graduation, 8 physicians died; in the first year thereafter, 15; in the second, 20, and in the third, 16.

The annual death rate per thousand for 1903, based on an estimate of 120,000 physicians, was 14.42, a rate lower than that of most great cities. This goes to substantiate our statement of last year that notwithstanding the risk of disease and exposure to which physicians are unusually subject, they lead a relatively sanitary life and practice what they preach.

* During 1902 the deaths of regular physicians only were recorded, during 1903 those of eclectics and homeopaths were included.

SUBPHRENIC ABSCESS.

Many conditions which when first described are looked on as of interest merely from a diagnostic or pathologic standpoint, later when more fully understood are frequently treated surgically with success. Collections of pus beneath the diaphragm offer a very good example. It is only within the past few years that such cases have been at all frequently reported, and up to within a short time it has been rare to see a report of more than two or three operations for this trouble by one surgeon.

A report of sixty cases operated on by Körte of Berlin in his private practice and service at the urban hospital during the past twelve years, would indicate that the condition is relatively frequent and that patients are sometimes allowed to die from lack of surgical treatment because the condition is not recognized. Grüneisen[1] gives abstracts of Körte's series of cases, and some very interesting facts which may be deduced from an analysis of them. Regarding the etiology of this condition, he finds that the infection most frequently originates from the vermiform appendix; perforating ulcer of the stomach or duodenum also occasionally causes the trouble and among the less frequent causes are abscess of the pancreas or liver. The infection may also find its way into the subphrenic space from above in disease of the lower ribs, the pleura or the mediastinum. The clinical picture varies according to the pathologic condition giving rise to the abscess. In most cases the first symptoms are those of localized peritonitis. Pain is not a constant symptom, neither is absence of fever evidence of the non-existence of abscess. Physical examination often gives characteristic signs early; the bulging of the lower part of the thorax and increased area of dullness in the region of the liver are important signs, and if the abscess contains gas there is usually a tympanitic zone between lung resonance and the liver dullness below.

1. Archiv für klinische Chirurgie, 1903, vol. lxx, p. 1; THE JOURNAL, xli, p. 583, title 26.

In many cases a definite diagnosis is impossible; for example, in certain cases of encapsulated basal empyema or liver abscess. Exploratory puncture is not without danger, but it is considered justifiable in case preparation is made for immediate radical operation if pus is located. The prognosis is favorable if an early diagnosis is made and pus freely evacuated; 40 out of the 60 cases were saved by operation. The abscess may be evacuated either by incision at the costal margin in the epigastrium or in the lumbar region, or by the transpleural route after resection of one or more ribs. The last-mentioned operation is best adapted for free drainage in the majority of cases. Frequently there are adhesions between the diaphragmatic and parietal pleura. If not, it is thought wise to suture the two layers of the pleura before evacuating the pus. In still other cases infected fluid in the pleural cavity or even empyema may co-exist, in which case the abscess and the pleural cavity are drained through the same opening.

This is probably the most valuable contribution that has appeared on this subject, and the large number of cases reported in the experience of one surgeon emphasizes its importance. Comparatively few cases have been reported in America, though we doubt if any surgeon of wide experience has failed to see at least one or two. No doubt a considerable number of lives are sacrificed every year because such conditions are not promptly recognized and treated, and anything which brings the knowledge of more obscure conditions promptly before the profession is of importance. A great service has been rendered to the profession by those of its members who have laboriously collected statistics of scattered cases by many operators in various parts of the world, published in many different languages. These collected statistics, however, are not as valuable as the wide experience of one competent observer and operator. The careful tabulation of 179 cases of subphrenic abscess by Maydl will be remembered by many who have been following surgical literature, and for a number of years practically all of our definite knowledge has been based on this tabulation. Körte's personal experience in over one-third as many cases as Maydl tabulated from all literature gives us much clearer information on many points and shows how greatly the death rate may be reduced in the hands of a competent operator. Maydl's statistics give 50 per cent. mortality in this condition. Körte's mortality is only 33 per cent.

WHY SCIENTISTS ARE POOR WRITERS.

"A Plea for Better English in Science" is made in a recent number of *Science*. The writer has passed judgment on about 100 manuscripts submitted by scientists, and decides that but 19 per cent. are good, 57 per cent. fair, and 24 per cent. are poor. Of these authors, about 75 per cent. have had collegiate or university training, and no fewer than 20 of them are now professors or instructors in leading universities and schools of science. Yet most of these 20 are placed in the "fair" class, and some even "poor." "Thus it appears that scientific and university life, with the preparation in lower schools which this implies, does not insure good English." This deficiency is ascribed in large part to neglect, the ability to write clearly and forcefully is considered as lying dormant, lacking a stimulus properly directed to bring it to light. If this is the case, then our universities are woefully deficient in applying stimuli, for it is indeed questionable if better ability to use our pliable language is to be found among those whose scholastic education continued beyond the high school than among those who stopped at or short of that point, but who subsequentlyy have occupied similar places in life. The collegiate instruction can enable the student to fight shy of the split infinitive, and to appreciate the horrors of the terminal preposition; but it can not often succeed in enabling him to write readable letters, much less interesting ones, if he could not already do it before his matriculation papers were filed. Writers are surely among those who are born and not made, and the correct use of English that can be acquired bears little relation to the forceful and attractive writing of which many of little education are capable. But why should scientists so often be poor writers and so seldom forceful, not to say entertaining?

We contend that something more than mere chance or simple carelessness is involved. Is it not that the very nature of his thought and work and the exacting requirements of scientific precision of expression, by themselves annul much of any natural trend towards pleasing use of language? Can a man be expected to have much left in the way of attractive expression after writing results of researches on meta-diazo-xylene-sulphonic acid, or what not, for several years? Is the description of the arrangements of the fibers in the dorsal roots of the lumbar plexus of *Mephitis mephitica* conducive to scintillating epigram? We are inclined to believe that a naturally brilliant writer will become more or less prosy after taking notes and writing theses on most of the topics that are open for research. Opportunities are now few for broad generalizations to which force can be given by figures of speech. May this not be the reason for the frequent complaint about the absence of literary ability in the general run of medical papers? Let us take the case of a young man stimulated to appreciate the poetic in nature and to reproduce it in his writing, by his first teacher of "English literature and rhetoric." He begins the study of medicine, and promptly his literary efforts are restricted to answering "eight of the following ten questions" in two hours. Osteology touches few poetic chords, and even the aroma of urinalysis fails to induce anything graceful in the "possible sources of error in the tests for albumin." Myology, angiology, et al, are as little inspiring, except for the production of mnemonics—

"On old Minerva's peaked tops," etc. Perhaps in physiology or pathology there appears something to warm the fast waning fires of poesy, but there is little opportunity for literary effects in a sheet of pink examination paper. If, perhaps, the struggle of the leucocyte and the bacterium appeals to him as Homeric, and he refers to a scar as "the monument to the martyred leucocytes erected by the grateful tissues they have saved," some hard-headed instructor will probably blue-pencil "Prolix" across the ode.

The author of the article in *Science* appeals to scientific men to cast off their indifference to the beauties of language, and to devote to their writing some of the energy they manifest in research. We fear, however, that the trouble does not lie merely in a lack of volition, but rather in the very tendencies of research itself; and as this tendency appears to be essential to exactness, its influence will not be easily overcome. Only occasionally can we expect a man with the innate genius to pass through this influence and to come out with the ability to be scientifically exact and at the same time brilliant in expressing himself. There are few men who can stimulate us with apt references to Sydenham's big toe, or Benjamin Rush's purgatives without being either absurd or tiresome. Such a talent is not the product of education or intention alone.

THE PATHOLOGIC ANATOMY OF PARATYPHOID FEVER.

Some time ago[1] we called attention to the class of cases whose symptoms, although they clinically resemble typhoid, are caused by a group of organisms standing between the typical colon and typhoid bacilli in cultural characteristics. This group of organisms shows among its individual members slight cultural differences, no greater than those between various strains of colon bacilli. Because of its intermediate position the organism has been variously designated as the "paracolon" or the "paratyphoid" bacillus. The results of the infection have also been various, the organism having been found sometimes in local abscesses, sometimes with pyemic manifestations, and often with a clinical picture very similar to that of typhoid fever. Therefore, it would seem justifiable to make a distinction on clinical grounds and to separate cases that resemble typhoid from those that do not, even if the infection is by similar organisms, the first class of cases being referred to as "paratyphoid fever"; the other by the general term of paracolon infection, or, for specific cases, as "paracolon pyemia," etc.

Paratyphoid fever, on this basis, while much like true typhoid, offers in any series of cases some slight differences in that the course is usually milder, and that diarrhea and hemorrhages are less frequent, although severe hemorrhage from the bowel occasionally occurs. Of course, the most suggestive feature is the absence of the Widal reaction when the patient's serum, diluted as high as 1 to 40 or more, is used against true typhoid bacilli. Any case with fairly conclusive clinical evidences of typhoid that does not give the agglutination reaction should be looked on with suspicion as possibly being paratyphoid. As there are differences in the agglutination reactions among the different members of the group, a negative result when the agglutination test is made with known cultures of paracolon bacilli is not at all conclusive evidence that the case is not paratyphoid, so the most reliable method of diagnosis is by all means the securing of blood cultures.

Because of the infrequence of fatalities the anatomic condition present in this disease has not been studied to any extent, and it has been an open question whether it did or did not resemble true typhoid closely. There are now, however, five recorded autopsies in cases with the clinical and bacteriologic features of paratyphoid fever, and as there is a fair degree of correspondence between them, Wells and Scott,[2] who report the fifth case, consider that they afford a good idea of the usual anatomic picture. It would seem that the differences from true typhoid are anatomically quite marked, despite the clinical resemblance and the occurrence of bowel hemorrhages. In fact, the lesions are much more like those of simple septicemia than like typhoid. The only constant feature of the five cases is splenic enlargement, which is similar to that of all the fatal bacteriemias, including typhoid. On the other hand, the lymphatic apparatus of the alimentary tract, including Peyer's patches, solitary follicles and mesenteric glands, is entirely free from swelling or the other changes so characteristic of typhoid. In two of the five there was no ulceration; in one a very slight superficial necrosis, and in two shallow, dysentery-like ulcers of the intestine. These did not in any case resemble the ulcerations of typhoid, not involving the Peyer's patches and being without the usual swollen margins. Microscopically the differences are even more marked, for there is none of the proliferation about the ulcers and in the lymphatic structures that characterizes typhoid, and in fact the borders of the ulcers present no evidence of reaction of any kind. Focal necrosis in the liver and parenchymatous degeneration of the kidneys constitute practically all the remaining lesions, so it will be seen that the anatomic changes are not great, and also that there is nothing characteristic about them. Similar pictures may be produced by other organisms causing fatal septicemia, and it is possible that some of the cases that have been reported as typhoid without intestinal lesions have been really paratyphoid. It is indeed remarkable that two organisms producing such similar clinical manifestations and with general biologic peculiarities so nearly alike that their separation is by no means easy, should exercise such different effects on the body, one apparently without action on the intestinal lymphatic struc-

1. THE JOURNAL A. M. A., Feb. 21, 1903, p. 520.

2. Jour. of Infectious Diseases, 1904, 1, p. 72.

tures which receive the brunt of the attack of the other. One is reminded of Welch's hypothesis of the production of specific cellular toxins by bacteria against the cells of their host. The geographical distribution of the five fatal cases—Santa Cruz, Prague, Roumania, Philadelphia and Chicago—indicates that the paratyphoid organism is as widely distributed as the true typhoid bacillus.

THE INFLUENCE OF BURNS ON THE ANIMAL ORGANISM.

While it is recognized that the animal organism can be subjected to moderate elevation of temperature, for not too long a period, without directly deleterious effects, it is equally appreciated that there is danger from great elevation, particularly if long continued. It is believed that, in consequence of the latter, changes take place in the blood and the other tissues incompatible with the maintenance of life. Such changes must occur, at least locally, in exaggerated degree in burns, and a more intimate knowledge of the processes resulting under such circumstances may throw light on those attending the febrile state.

Among the phenomena that have been observed in the sequence of burns of the surface of the body are morphologic alterations in the red blood corpuscles, even to the point of complete destruction; escape of the hemoglobin of the erythrocytes into the blood plasma; partial formation of small thrombi, causing ulceration, for example, in the intestine; alterations in the cells of the nervous system, the uriniferous tubules, etc. In the belief that cytotoxins must play an important part in the development of these phenomena, von Dieterichs[1] undertook a series of investigations on animals, to determine whether, in connection with burns of the surface, autolysins and autoagglutinins, isolysins and isoagglutinins, and heterolysins and heteroagglutinins are present in the blood, and in what proportion. He reasoned from existing knowledge that specific fixators (intermediary bodies, amboceptors) appear and unite with non-specific cytases (alexins, complements) always present in the blood serum, and form cytotoxins, which, on the one hand, cause agglutination of the red blood corpuscles, with the development of their hemolysins, and, on the other hand, possess cytotoxic and cytolytic properties for various cells of the body. As a result of his observations, he has reached the conclusion that elevation of temperature gives rise especially to complete or partial destruction of the cellular elements of the blood and the tissues. This is followed by the formation and accumulation of cytotoxins (hemotoxins) in the organism, which are injurious not only to the cells of the body itself (autotoxins), but also to the cellular elements of other animals of the same species (isotoxins), although in lesser degree, and also for animals of another species (heterotoxins). The formation of the cytotoxins of the blood takes place probably with especial activity during the first five or ten hours after the inception of the burn, and then gradually diminishes. As endeavors to render the serum inactive by exposure to a temperature of 57 C. for twenty-five minutes yielded a positive result, it can be assumed that the hemotoxins formed as a result of burns also consist of two parts, a specific fixator (amboceptor of Ehrlich) and a non-specific cytase (complement), which is readily destroyed by the action of various agents. In addition to hemolysins, there appear in the blood of animals agglutinins, whose action appears later than that of the bodies already mentioned. To their action are due the emboli and thrombi found after death.

The changes in the blood after burns are fully explained by the formation of hemolysins and hemoagglutinins. The presence of other cellular poisons may be suspected in the organisms of burned animals, whose specific effects on cellular elements of a definite kind can be compared with the action of the hemolysins and hemoagglutinins on the elements of the blood.

1. Wiener Medizinische Wochenschrift, Nov. 21, 1903, p. 2206.

THE IMPORTANCE OF RESISTANCE TO TUBERCULOSIS.

Dr. Sims Woodhead's Phipps lecture[1] on pulmonary tuberculosis is notable for its optimistic utterances as to the curability of the disease, and as to the importance of germs as compared with the importance of a body capable of resisting disease. Dr Woodhead's own experience shows that in a very large proportion of lungs of old people dying from other causes than tuberculosis, there were gross macroscopic evidences of the former occurrence of the disease, and probably had his examination been as minute as those of Naegeli, a still larger proportion might have been found. He says he has handled, inspired and probably ingested tubercle bacilli for many years, and yet he has not tuberculosis. It is the soil, not the seed, as has been stated many times by others; the defense, not the extirpation of the germs, on which we must place the most reliance in our conflict with tuberculosis. This, of course, does not imply that the active fight against the infection is to be neglected or that the extirpation of the germs is not also an object, but it should not be the sole aim in our treatment of the condition.

THE JOURNAL OF INFECTIOUS DISEASES.

We have received the first issue of the above journal—a unique publication, in that it is, so far as we know, the only medical journal that is endowed. It has been established in connection with the Memorial Institute for Infectious Diseases, founded by Mr. and Mrs. Harold McCormick, but the journal is specifically endowed independent of the institute. As its name indicates, it is to be devoted to the publication of original investigations dealing with infectious diseases, their etiology and prevention. It will have a special field to itself, and we are told that only such contributions as bear directly on the topics indicated will be published. "The biology and chemistry of the various pathogenic micro-organisms, the

1. Med. News and Amer. Med., January 2.

physiology and anatomy of the morbid processes that they initiate, and the hygienic and sanitary problems to which they give rise are considered to be especially within the scope of the undertaking," is from the announcement contained in the first number. The first issue contains eleven original contributions, and consists of 210 7x10 pages, single, wide columns, and is printed on excellent paper. Typographically, the journal is excellent. The illustrations, made on heavy glazed coated paper, come out remarkably well. The journal is under the editorial management of Drs. L. Hektoen and E. O. Jordan, and Drs. Frank Billings, F. G. Novy and W. T. Sedgwick are named on the title page as associate editors. The journal will be issued at irregular intervals, as rapidly as the amount of material warrants, each volume to contain 500 pages. The subscription price is $5 per volume. The medical profession of the United States is to be congratulated on this further evidence of the interest that rich men are taking in scientific medicine, and especially on the fact that it will carry to the old world another proof that this country is doing at least its share in the progress that is being made in scientific medicine in the twentieth century.

THE PROPOSED POST-CHECK CURRENCY.

The inconvenience attendant on sending money by mail will be greatly lessened if the post-check currency bill, introduced into Congress by Mr. Gardner of Michigan, becomes a law. The bill contemplates the issue of the present United States $1, $2 and $5 paper currency with blank spaces on which may be written the names of the sender and the payee. So long as these spaces are blank the bills will pass current as do the present greenbacks. A person wishing to send money by mail will affix and cancel a one- or two-cent stamp, and then will write his name and the name and address of the one to whom he wishes to send the money. Then the bill may be placed in an envelope and mailed without more formality or trouble, and the bill becomes payable only to the person named on its face. The recipient can redeem it at any postoffice or bank; after which it is not reissued. A further proposal is to issue fractional currency of denominations of 5, 10, 25 and 50 cents, but this is a separate matter. The whole plan is so delightful in its simplicity that to mention it can only be to commend and to compliment the inventor, Mr. C. W. Post. Of course, it will be impossible to send $1.63 by post-check currency, there being no bill for that amount; but when the proposed bill has become a law, we shall have taken a long step toward the easy transmission of money by mail. It will be seen at once that if bills are issued on this plan there will be a cleaner lot of paper money, and it is especially to be advised for this reason alone. But physicians and all who send money by mail will find it a great convenience.

THE IROQUOIS THEATER FIRE.

The awful theater disaster at Chicago December 30, which has stirred the country more than any other recent event, has in it many lessons which it is to be hoped will be utilized against future accidents of the kind. The most pitiful feature of the case is that it occurred during the holidays when the city schools were not in session,[1] and thus a larger proportion of the audience were women and children than is usually the case, even at matinees; and such an audience is naturally less self-helpful and resourceful than one composed of adult men. Many of the victims were trampled down and smothered, as the absence of burns on their bodies testified. It is doubtful, however, whether this wild panic, in which so many lives were sacrificed, could have been absolutely avoided, even had the crowd attempted to go out quietly and orderly. There would have been a certain loss of life from the draught of the flames into the upper galleries, but that the loss of life should have been so great in a building supposedly fireproof and which is left so little structurally injured after the event, is one of the striking features of the case. The greatest lesson which the holocaust teaches us, however, and which we think should be most of all considered, is that under no circumstances could all those in the upper galleries have escaped through the narrow exits provided. No theater that is inclosed by other buildings, as is the Iroquois, and that has heavy walls with few and narrow openings, can be considered safe. Every theater should have ample exits on at least three sides, so that in a panic every part of it can be emptied in a few minutes. The exits should be so made that under no circumstances could they remain closed against pressure from within. If this lesson is properly learned, we may hope for no recurrence of such a holocaust as that of Chicago. Panics may occur—we can not insure against them—but their consequences will be less disastrous. Automatic sprinklers, steel and asbestos drop curtains and every other appliance against fire should be provided as well as plenty of aisle space, but all these are as nothing compared with ready and ample means of exit. Regardless of the amount of danger or the cause of fright, there is no greater cause of panic than the failure of the audience to see abundant avenues of escape. Thousands of lives have been sacrificed on a false alarm of fire, and will be again if provision is not made for the panic of the multitude.

Medical News.

ILLINOIS.

Physician's Estate Sued.—Dr. Jeremiah H. Stealy, Freeport, has sued the estate of the late Dr. W. S. Caldwell for $18,000 alleged to be due him for extra services performed while Dr. Caldwell was taking a trip around the world.

Sanitary Inspection of Cities.—The State Board of Health announces that instead of seventy-five cities inspected, as reported in THE JOURNAL of last week, one hundred cities have been covered by the sanitary inspectors of the board.

Smallpox Called "Itch."—Because of an epidemic of mild smallpox, which is called "itch," the Cottonwood school, Champaign County, has been closed.——The quarantine established by Shawneetown against Ridgway has been lifted, by order of the State Board of Health.

Personal.—Dr. Guy G. Dowdall, Clinton, has been appointed division surgeon for the Illinois Central Railroad, vice Dr. John M. Wilcox, resigned.——Dr. Henry Richings, Rockford, on March 4, will celebrate the fortieth anniversary of his entry into practice. The Winnebago County Medical Society intends to hold its annual banquet on that date with Dr. Richings as

1. Among the dead were 38 teachers and 96 pupils of the Chicago public schools.

the guest of honor.——Dr. George W. Parker, Mount Sterling, and wife have sailed for Europe, where they expect to remain two years.

Chicago.

Will Have Its Own Training School.—Cook County Hospital announces that it will soon establish a training school for its own nurses.

Mortality of the Week.—Not including those killed in the Iroquois Theater fire the dead of the week ended January 2, number 604, an annual death rate of 16.18 per 1,000. Pneumonia, as usual, leads with 146 deaths; consumption had 56, and Bright's disease 52 deaths.

Deaths of the Month.—During December 2,354 deaths were reported, a death rate per 1,000 of 14.69. (This does not include the fire victims.) Pneumonia leads with 498 deaths, consumption comes next with 228, and violence and Bright's disease are each credited with 166.

Personal.—Dr. P. Maxwell Foshay, Cleveland, whose marriage is announced in another column, will, we understand, locate in Chicago, early in April, and will be resident medical director of the new branch of the Mutual Life Insurance Company of New York, which has recently been opened there.——Dr. W. Harrison Hipp has been reappointed a member of the State Board of Health.

The Deaths of 1903.—Including the 587 deaths in the Iroquois Theater fire the Department of Health reports that the total deaths for 1903 will number 28,940, instead of the 28,353 given in the statement of mortality for the year. This will increase the death rate from 15.04 to 15.35 per 1,000. Deaths from violence were already more than 12 per cent. in excess of the average for the period since the census year 1900; but these 587 theater deaths swell the excess to 41.5 per cent. over the yearly average of violent deaths. Even with this addition to the total mortality, the death rate is 6 per cent. lower than the yearly average since 1892, although it is 8.2 per cent. higher than that of 1901 and 5.3 per cent. higher than that of 1902.

Effects of One Milk Delivery A Day.—In the Bulletin of the Department of Health the effects of the arbitrary action of the milk dealers is thus characterized:

> The disastrous effects on child life—threatened by the barbarous action of the milk-wagon drivers in refusing to make more than one delivery of milk a day—were largely overcome by the relatively cool weather of the summer, by unusual effort in milk inspection (including the employment of an emergency corps of inspectors, known as "milk scouts"), and by an enormous development of the sterilized milk service fostered by the Woman's Club and Hospital Association.
>
> As a matter of record the mortality of infants and young children during 1903 was lower than ever before known—8.8 per cent. less than in 1902, 9.4 per cent. less than in 1901 and 57 per cent. less than the average of the period between the two census years, 1890 and 1900. In 1891 the deaths of children under 5 years of age numbered 110.38 in every 10,000 of population; in 1903 they were only 41.7.

MARYLAND.

Insane Hospital Report.—According to the annual report of the Maryland Hospital for the Insane, No. 1 at Springgrove, 631 patients were in the institution during the year ended October 31; 33 patients were discharged and 40 died. There were 79 new admissions. The number of cases due to alcohol is increasing. The institution needs additional land for farming purposes and an isolation building for infectious and contagious diseases, especially consumption.

Baltimore.

Banquet to Health Commissioner.—The third annual banquet tendered by the health department to Health Commissioner Bosley, was held December 28. Quarantine Physician Heiskell acting as toastmaster.

Woodhead in Baltimore.—Dr. German Sims Woodhead, professor of pathology at the University of Cambridge, England, spent December 31 in Baltimore. He was the guest of Drs. Osler and Welch and spent several hours inspecting the Johns Hopkins Hospital.

Disease on Increase.—Scarlet fever and diphtheria are both prevalent and on the increase. The health commissioner finds it necessary to draw public attention to this fact. He thinks people are becoming careless and no longer fear scarlet fever. Many neglect to report its presence.

Senses Hospital Report.—The South Baltimore Eye, Ear and Throat Hospital reports since the opening, May 1, 1901, 1,323 patients have been treated, 56 of whom were house patients. In the dispensary there were 6,219 visits and 358 surgical operations. The expenses were $1,229; receipts, $1,136.

Isolation Hospital Needed.—The necessity of an infectious diseases hospital will again be agitated. A year ago a site was purchased in the suburbs by a commission of which Dr. Welch was chairman, but the residents obtained a legislative enactment forbidding the erection of the institution within a half mile of any of the parks. A suit is pending regarding the validity of that purchase.

Medical Agency a Success.—The City Medical Agency in South Baltimore having proven a success, a second one will be established in Northwest Baltimore. A male and a female physician are employed at each, and it is designed to cover the whole city. The addition to the Bayview Hospital a city almshouse of over 150 acres gives the city opportunity for great increase in facilities for caring for the sick. A house bought with the new land is being prepared as a hospital for female consumptives, and a contract has also been signed for a house to hold 70 male consumptives. The officials have visited New York to examine the methods there in vogue by tents and pavilions with the purpose of increasing the number of consumptives who can be cared for on the high and extensive grounds of the new farm. The supervisors are also laboring for an improvement in the nursing service and care of the insane.

Deaths and Births in 1903.—The health commissioner reports in 1903, 10,141 deaths, 30.59 per cent. being under 5 years of age. There were 8,620 births reported. It is noticeable that a considerably less number of white females were reported born and dead than white males. It is strange that this disproportion is not seen in the case of colored births and deaths. The annual birth rate was 16.17 per 1,000—namely, whites, 15.52; colored, 19.74. The annual death rate is less than any of the three previous years. The following are some of the causes of death: tuberculosis, 1,366; pneumonia, 1,101; heart disease, 757; Bright's disease, 693; diarrhea, dysentery and enteritis, 658; apoplexy, 369; cancer, 370; accidents, 416; old age, 258; bronchitis, 235; typhoid fever, 189; diphtheria, 160; influenza, 92; scarlet fever, 84; measles, 77; suicide, 58; puerperal septicemia, 57; whooping cough, 64; septicemia, 35; erysipelas, 26; malarial fever, 18; homicide, 14, and smallpox 2.

MASSACHUSETTS.

Bequests.—The will of Mrs. Mary D. Converse makes the following bequests: Women's Charity Club Hospital, $2,000; Malden Hospital, $2,500.

To Have New Dispensary.—Charlestown Navy Yard is to have a new dispensary, a two-story building of brick and stone, 50 by 50, and to cost $11,000.

New Gifts for Crippled Children.—At the dedication of the new building of the New England Peabody Home for Crippled Children at Hyde Park, December 29, an additional gift of 33,000 feet of land was announced from Mr. Robert Bleakie, who gave 28,000 three years ago.

Care of Consumptives.—The Boston Association for the Relief and Control of Tuberculosis has issued a small booklet, which is to be given to children in the grammar and high schools of Boston, containing advice regarding the care of consumptives and rules to avoid danger from the disease.

Epileptic Hospital Report.—The trustees of the Massachusetts Hospital for Epileptics at Palmer report an average of 410 patients cared for there during 1903 at an average cost per week of $4.55. New buildings will soon relieve the present overcrowded conditions. They urge immediate provision for the large number of epileptic children at present unprovided for in the state.

Boston's Insane.—Boston sent 482 patients to the State Hospital for chronic cases at Tewkesbury in 1903 and cared for 215 others in her own almshouse and hospital on Long Island. Boston insane hospitals are as usual overcrowded, 286 women at Austin Farm and 283 men at Pierce Farm and 25 are to be removed to state asylums. At Christmas 42 patients were allowed to visit their homes.

Doubles Boston's Water Supply.—On December 29 water was admitted to the new acqueduct from the Sudbury dam. By this route the water travels 13 miles to the Weston equalizing reservoir and thence seven miles more to the Chestnut Hill Reservoir, whence it is distributed to the Metropolitan District of Boston. The new waterway has a capacity of 300,000,000 gallons per day and doubles Boston's water supply.

Brigham Will Sustained.—The decision of the U. S. Circuit Court sustains the will of Peter Bent Brigham and releases nearly $5,000,000 for the construction and maintenance of a hospital for the sick poor. He died May 24, 1877, leaving a large estate to be held in trust for twenty-five years. The

corporation which has been duly formed may, therefore, forthwith proceed to the erection of such a hospital to be called the Brigham Hospital, the only restriction being that it shall be for the sick poor resident in Suffolk County.

Investigation Committee Disagrees.—The investigation of the Long Island Hospital by the city government of Boston has resulted in a disagreement in the committee. The majority, as was expected, finds many of the charges sustained. The minority completely exonerates the management. The move was a political one, with the purpose of finding excuse for a petition to the state legislature to abolish the unpaid board of trustees and substitute one paid commissioner. The present trustees have emphasized the hospital idea, have employed a medical superintendent, established a training school for nurses, employed a pathologist, etc., for all of which they are criticised in the majority report.

Hospital Staff Changes.—On January 1 Dr. Edward Cowles retired as superintendent of the McLean Hospital for the Insane at Waverly, where he has been since 1879. His first assistant, Dr. George T. Tuttle will become superintendent and Dr. E. Stanley Abbot, now assistant superintendent of the Boston City Hospital will take Dr. Tuttle's place, having practical charge of the women's side. Dr. Cowles will continue in consultation practice in Boston. Dr. Abbot was formerly assistant in McLean and returns there to devote himself to work in which he has already distinguished himself. Dr. Frank H. Holt will succeed him as assistant superintendent at the Boston City Hospital.

MICHIGAN.

Mr. Warren's Death.—On November 11 Mr. William Matthew Warren, general manager of Parke, Davis & Co., Detroit, died, aged 39. He had been in the service of the firm for 22 years.

The Test Case.—In order to test the validity of the city ordinance requiring the filing of certificates of cause of death within 12 hours, Dr. Clarence B. Hernam, Grand Rapids, was recently arraigned for violation of the ordinance, pleaded guilty, and was fined $2 and costs.

Communicable Diseases.—Meningitis was reported present in November at 4 places; whooping cough at 16 places; measles at 31 places; smallpox at 53 places; diphtheria at 80 places; scarlet fever at 122 places; typhoid fever at 154 places, and consumption at 193 places. Meningitis was reported present at 4 places less; whooping cough at 3 places less; measles at 10 places more; smallpox at 11 places more; diphtheria at 3 places less; scarlet fever at 11 places more; typhoid fever at 31 places less, and consumption at 49 places less, than in the preceding month.

Comparative Morbidity.—For November, compared with the preceding month, influenza, pleuritis, pneumonia, erysipelas, whooping cough, measles and smallpox were more prevalent; and diarrhea, intermittent fever, inflammation of bowels, dysentery, remittent fever, cholera morbus and cholera infantum were less prevalent. For the same month, compared with the average for November in the last 10 years, smallpox was more than usually prevalent; and intermittent fever, erysipelas, inflammation of bowels, remittent fever, cholera morbus, whooping cough, measles and cholera infantum were less than usually prevalent.

November Mortality.—There were 2,623 deaths reported for November, or 1 death less than the preceding month. The death rate was 12.9 per 1,000 population. Important causes of death were as follows: Tuberculosis, 185; typhoid fever, 80; diphtheria, 112; scarlet fever, 14; measles, 7; whooping cough, 28; pneumonia, 206; cancer, 140; accidents and violence, 194. The number of deaths reported from typhoid fever was less than during October. Tuberculosis also showed a decrease, while diphtheria, scarlet fever and other diseases of children showed a considerable increase. There were no deaths from smallpox during the month, but one death from chicken-pox was reported.

NEBRASKA.

Police Surgeons Change.—Dr. Stuart B. MacDiarmid, police surgeon, and Dr. F. J. Schieler, assistant, of Omaha, retired from office, January 1, and were succeeded by Drs. Isadore S. Trostler and Jay C. Decker.

Personal.—Dr. August F. Jonas, Omaha, who was operated on for gallstones by Drs. W. J. and C. H. Mayo, at Rochester, Minn., about a month ago, has gone to his former home, Madison, Wis., to complete his convalescence.

Not Lepers.—The sensational despatch from Lincoln announcing that there were 25 Russian lepers living in that city, has been investigated by the health officer and the city physician and declared to be totally without foundation.

Vital Statistics of Omaha.—For the first ten months of 1903, there were 1,764 births and 945 deaths in Omaha. There were 308 cases of scarlet fever, 71 of diphtheria, 106 of measles, 74 of smallpox, 70 of varicella, and 28 of typhoid fever, during the same period.

OHIO.

Fumigated During Vacation.—By order of the Youngstown Board of Education, all the public schools of that city were fumigated during the Christmas vacation.

Cincinnati District Physicians.—The list of district physicians handed to the mayor as president of the Cincinnati Board of Health includes nine of the present staff, ten new appointees and leaves two vacancies to be filled later on.

Typhoid Increasing.—The health report of Cleveland for last week shows an increase in typhoid fever, of which 49 cases were reported, with 9 deaths. The total of cases was 121, which compared unfavorably with 5, the number for the corresponding week of last year.——At the state penitentiary, Columbus, the disease is said to be epidemic, 14 cases having been reported.

PENNSYLVANIA.

Railway Killed and Injured.—From the report of the secretary of internal affairs, it is learned that, for the year ended June 30, 1903, 3,719 persons were killed, and 22,784 injured on the steam and street railways of Pennsylvania.

Unusual Vaccination Location.—A barber of Alliance is reported to have brought suit against Dr. F. W. Forbes for alleged malpractice, asserting that the latter applied vaccine to scratches which he had accidentally received on the face, and that the vaccine vesicle has appeared in this area.

Union Meeting.—A committee has been appointed by the county medical society to arrange for a meeting of the regular profession of the censorial district of the counties of Philadelphia, Delaware and Chester early in January. The meeting will be in the form of a reception to members of the county societies and invited guests.

Officials and Nurses Exonerated.—In the case of the death of a girl in the Pennsylvania Training School for Feeble-Minded Children, in which the father of the girl had made accusation of violent treatment as the cause of death, after thorough investigation of the case by the board of directors of the institution, they exonerate Superintendent Barr and the other officials and nurses from any blame in the case.

Annual Meeting.—The annual meeting of the Berks County Medical Society was held in Reading, December 8, when the following officers were elected: President, Dr. John F. Feick; vice-presidents, Drs. George Hetrick and James W. Keiser; recording secretary, Dr. Daniel Longaker; corresponding secretary, Dr. Hiester Bucher; treasurer, Dr. Irvin H. Hartman; reporter, Dr. William S. Bertolette; trustee, Dr. George W. Kehl; censors, Drs. Oan J. Thompson, Christopher H. Shearer and William E. Fisher; curator, D. S. Grimm, and librarian, Dr. S. Banks Taylor, all of Reading.

Prosecution or Persecution.—An interesting situation has arisen in connection with the prosecutions which have been carried on vigorously for some time by State Dairy and Food Commissioner Warren against dealers in impure articles. Judge Miller of Mercer County has refused to sentence those convicted in his court, holding that the action of the department is persecuting and lacking in equity. He holds that the dealers, not being expert chemists, should be warned, previous to arrest, and be given an opportunity to determine whether their goods are pure or adulterated. Dr. Warren proposes to make an effort to compel the judge to pass sentence in cases where conviction has been secured.

Smallpox.—An epidemic of "Cuban itch" is reported to exist among the school children of Essington. It is thought to have been brought by sailors to the port.——Smallpox has appeared among the inmates of the Lehigh County Poorhouse near Allentown. Five inmates are reported to have the disease and there are some suspects. The like institution of Blair County has to deal with the same disease. Two inmates have died and there are at least two other cases of the disease.——Smallpox has reached such proportions in Wayne County that Dr. Graff, a member of the State Board of Health, is said to have written letters of warning against the section to health authorities of surrounding regions.

The Situation at Butler.—At a special meeting of the Citizens' Permanent Relief Committee, December 30, it was de-

cided to close the Philadelphia Hospital at Butler, January 15, as it is believed that the epidemic at Butler will have been controlled by that time. A committee composed of John H. Converse, Dr. French, and the mayor, is to prepare a testimonial to the nurses and physicians of this hospital, all having gone from Philadelphia, laudatory of their services.——The relief committee at Butler had received up to December 29 $45,000, and it was estimated that $35,000 would still be needed to relieve those in distress because of the typhoid fever epidemic. The ninetieth death from typhoid fever occurred January 3, and 3 new cases were reported on the same day.

Philadelphia.

A New "Pathy."—J. B. Brown, a self-styled "cereopathic physician," has been committed to prison by Coroner Dugan. Brown had been treating a child, celery tea being a principal remedy. At the coroner's inquest on the death of the child, it appeared that Brown had no legal right to practice medicine.

Want To Be Inspectors.—On December 31 about 200 physicians took examination before the civil service board for the position of assistant medical inspector of the department of health. The corps of inspectors now numbers 13, but 45 additional inspectors were recently authorized. It was to fill the 37 additional positions that the examination was held.

Scientific Societies Meet.—On December 29, 30 and 31, the Association of American Anatomists, the Society of American Bacteriologists, and the American Physiological Society met in Philadelphia. Dr. Frederick G. Novy, Ann Arbor, Michigan, was elected president of the society of bacteriologists, and Prof. Charles S. Minot of Harvard University, president of the society of anatomists.

Alleged Cruelty to Epileptic.—Charged with cruelty to a patient in the insane department of the Philadelphia Hospital, two keepers, Richard Moore and Thomas McBlain, were held, December 26, by a magistrate, in $800 bail each for a further hearing. The victim is said to be an epileptic with homicidal mania, and is asserted to have received his injuries while being subdued into submission by his keepers, whom he had attacked.

Lectures to Teachers.—A part of the scheme by Director Martin for the inspection of public school children is that of lectures to the teachers so that they may better aid the inspectors in their work of detecting disease among pupils. Dr. Martin reports that he has asked the county medical society and the College of Physicians to co-operate in revising the list of infectious diseases which physicians must report to the board of health. Pneumonia, whooping cough, tuberculosis and measles will, perhaps, be added to the list.

Smallpox and Typhoid Still Prevail.—There is no abatement in the prevalence of smallpox and typhoid fever, as shown by the health report of the week ended January 2. There were 74 new cases of smallpox, with 11 deaths, and 150 new cases of typhoid fever, with 20 deaths. There were 83 new cases of diphtheria and 123 of scarlet fever. Pneumonia is prevalent, 95 deaths being ascribed to that cause. There was a high death-rate, deaths from all causes numbering 602, as compared with 554 for the previous week and 532 for the corresponding period of the previous year.

Philanthropy.—The will of the late Charles Hart, a lawyer, directs that the estate, valued at $56,000, be distributed, at the death of decedent's mother, to charitable institutions. Five thousand dollars each are bequeathed to the Children's Seashore Home for Invalid Children, at Atlantic City; the Children's Country Week Association; Sanitarium Association; Pennsylvania Training School for Feeble-Minded Children; Home for Incurables; Children's Hospital, and the Western Home for Poor Children.——The will of the late Hannah Adler, recently probated, bequeathes $2,000 to the Jewish Hospital for furthering the work of the Mathilde Adler-Loeb Dispensary.

Parsimony Aids Disease.—Dr. Seneca Egbert, professor of hygiene of the Medico-Chirurgical College, in a recent lecture before the Academy of Natural Sciences, stated that an urgent need in the schools and colleges is a comprehensive course in anatomy and hygiene and sanitation. One half of the population is under 24 years of age, and education of this portion in sanitary matters would have great weight in sanitary regulations. The great need of a city officer was pointed out, whose sole duty should be to go from school to school to look after the heating, ventilation, and general sanitary condition of the buildings. The parsimony of Pennsylvania, which appropriates only $6,000 a year for the care of the health of her citizens, results in the prevalence of smallpox and other contagious diseases.

Dr. Woodhead's Lecture.—On the evening of December 29 Dr. G. Sims Woodhead, professor of pathology of Cambridge University, England, under the auspices of the Phipps Institute of Tuberculosis, lectured on "The Paths of Infection in Tuberculosis and the Relations of the Tissues and Clinical Manifestations of the Disease." (See editorial in this issue.) A large number of stereopticon views were used to illustrate the subject. The lecture was a comprehensive, simple, direct presentation of the best knowledge on the subject. Many of Philadelphia's eminent physicians vied with one another to do Dr. Woodhead honor. The following acted as his hosts at various times for luncheon, dinner or reception: Drs. W. M. L. Coplin, John H. Musser, Charles H. Frazier, Charles F. Judson, M. P. Ravenel, and Horace Jayne

GENERAL.

Multiple Angiomata of the Spleen.—Dr. William C. Pumpelly, pathologist to the pathological department of the Georgia State Sanitarium, Milledgeville, reports that in the necropsy on the body of a negro, female, who died from pulmonary tuberculosis, the spleen was found to be enlarged, and on section to contain a number of circumscribed hemorrhagic areas about 3 cm. in diameter and composed of blood vessels supported by a delicate connective framework not distinctly incapsulated but circumscribed and separate from the spleen structure. There were possibly twenty of these areas.

CANADA.

Diphtheria is still very prevalent throughout the province of Ontario.

La Grippe Prevalent in Toronto.—A severe epidemic of la grippe exists in Toronto, and fifteen deaths a day were recorded in that city from pneumonia last week.

Smallpox Prevalent in Cape Breton.—The smallpox situation throughout the Island of Cape Breton is becoming very acute, and the local health authorities are strenuously endeavoring to check a general epidemic. In several districts the disease is rampant and fears are entertained that it may appear in Sydney.

Personal.—Dr. J. F. W. Ross, Toronto, is spending a two months' vacation in Egypt.——Dr. James Stewart, Montreal, has gone to Egypt to recuperate, after a long siege of blood poisoning.——Dr. W. F. Langrill, formerly medical health officer of Hamilton, Ont., has been appointed medical superintendent of the Hamilton General Hospital.

Sanatorium By-Law Passes.—The by-law to provide for raising $50,000 for a municipal consumption sanatorium in Toronto, was passed by the ratepayers at the annual municipal elections, January 1, by a vote of 4,071 to 3,822. All of the leading papers demanded its defeat in view of the good work performed by the National Sanitarium Association.

McGill University Dental Course.—The corporation of McGill University has decided to establish a dental department. The course will be four years of nine months each. The degree of master of dental surgery will be conferred at graduation, and not less than one year after graduation the degree of doctor in dental science may be conferred under certain conditions.

New Laboratory for Queen's University.—Queen's medical faculty has asked the Ontario government to establish in connection with that institution a branch laboratory of the Ontario Board of Health, for the examination of pathologic specimens. The government laboratory is now situated in Toronto, and it is claimed for eastern Ontario that it is too distant in securing prompt and effective results. It is likely that the government will grant the request.

The Prevention of Tuberculosis.—The Montreal League for the Prevention of Tuberculosis is issuing an appeal for funds to enable it to carry on the war against tuberculosis in that city. The league needs this money now for the purpose of establishing free consulting rooms, and intends as soon as possible to erect a sanatorium at Trembling Mountain, at which place the provincial government of Quebec has made it a grant of land for the purpose. The league is under the patronage of the governor general, Lord Minto, Lord Strathcona, Sir Louis Jette, and Sir William Macdonald. Senator Drummond is the president.

Life Assurance Statistics.—Dr. MacPhail of Montreal has been making observations as to the liability to earlier death of persons rejected by insurance companies, as compared with the liability of those accepted. In 5,115 applications, 409 were rejected; of these he traced 235, of whom during fifteen years only 31 died, while according to insurance actuarial figures, had

the 235 been "sound lives," no less than 25 should have died in that period. Dr. MacPhail comes to the conclusion that those who are rejected by insurance companies, as a rule, manage to live about the usual average. The reason for this is that they take better care of themselves once they have been rejected.

FOREIGN.

German Anticharlatan Congress.—The German Society for Combating Quackery has issued an appeal for a general congress to be held at Berlin January 14 and 15. Addresses on charlatans' practice and on the legal means of restricting it will be the chief features of the congress. The organization is in charge of Dr. Siefart, Charlottenburg, Hardenbergsstr. 39.

Garre Goes to Vienna.—Professor Garré of Königsberg has accepted a call to Vienna as successor to Gussenbauer. He is Swiss by birth and is now in his forty-eighth year, a pupil of von Brüns. He has occupied chairs at Tübingen, Rostock and Königsberg, and his name is well known from his numerous articles on almost all branches of surgery. He was at one time editor of the *Corr.-Blatt f. Schweizer Aerzte*.

Drug Mistake at Bonn Gynecologic Clinic.—A nurse administered to a patient at night two tablespoonfuls of a solution of zinc chlorid instead of the chloral which had been prescribed. Professor Fritsch writes to the *Deutsche med. Wochft.* that the patient vomited immediately, and milk and sodium bicarbonate were given at once and the stomach rinsed out. All danger was past in a few hours, and the patient well and free from pain. The only symptom left is a slight smarting when she swallows. He adds that the mistake was unpardonable and incomprehensible as the remedies for external use are kept in bottles with eight corners and fluted sides, while the internal ones are in smooth, round bottles and the two kinds are kept in separate places.

The Prizes of the Paris Academie de Medecine.—An unusually small number of the prizes were awarded this year. There was no competition for several and nothing of value was received for others. The Tremblay prize of $1,240 was bestowed on Albarran for his works on affections of the prostate, with honorable mention of others by Guiard and Petit. The Tarnier prize of $600 was given to Stroheker of Paris for a study of fibromata of the broad ligaments. J. Comby of Paris received the Roger prize of $500 for his series of works on children's diseases. The Vernois prize of $140 was divided between two laymen, P. Strauss and A. Fillassier, the former a senator and the other a lawyer, for their legislative work in matters affecting the public health, and F. Battesti of Bastia for studies on malaria. Other prizes were given to Arloing for his work on tuberculous ulcerations in the stomach, to Jousset for his method of diagnosing tuberculosis by "inoscopy." Also to G. Weiss for studies in medical electricity, to Bezançon and Griffon for bacteriologic studies on tuberculosis, to Philippe and Cestan for their studies on the mental troubles in sclerosis in patches, to Meige for his therapeutic study of tics, and G. Thibierge for a work on syphilis and deontology. The recipients were all French, with one or two exceptions, although competition is open to the world. Few if any contributions were received from outsiders. The communications above mentioned on which prizes were bestowed have all been reviewed in THE JOURNAL during the last year or two. The Académie has about fifty endowed prizes to bestow annually as has been described from year to year in these columns. Full details of the competition were given in THE JOURNAL of January 24, 1903. The Labordie prize of $1,000 for "notable advance in surgery," was not awarded this year.

The Recipients of the Nobel Prizes: *Finsen.*—Nyls Ryberg Finsen was born in 1860 on one of the Faröe islands, between Scotland and Iceland, and was educated at Reykjavik, Iceland, and later at Copenhagen. After obtaining his medical degree he was for some years prosector at the Copenhagen medical school, and commenced his studies on the influence of light on biologic processes at this time. His light institute was founded in 1896, but he is now unable to direct it personally, as he is confined to his room by a severe chronic affection. The International Medical Congress at Paris in 1900 was the first introduction of his methods of phototherapy to the profession at large. He has divided the sum received in the prize between his Light Institute and a hospital at Copenhagen. *The Curies and Becquerel.*—Professor Pierre Curie has occupied the chair of chemistry at the Paris Municipal School of Applied Physics and Chemistry since 1895, and has also had a chair at the Sorbonne since 1900. His wife, a Pole by birth, is now 35 years old, and took a degree as bachelor of sciences at Paris some years ago. She lectures at the normal school at Sèvres. The discovery of radium by this couple was preceded by the discovery by H. Becquerel of the light-emitting properties of uranium, and the Nobel prize for physics was divided between the three, all residents of Paris. *Arrhenius.*—The prize in chemistry was awarded to Arrhenius, a Swede, whose textbook on electro-chemistry is not only one of the most recent but also one of the most authoritative on the subject. His chief claim to distinction is his theory in regard to ions, which he advanced to explain the dissociation of substances by electricity. *Nationality of the Recipients.*—These prizes during the three years since they have been awarded have been distributed among nineteen persons. Although Nobel himself was a Scandinavian, not until this year has a prize been given to any of this race, but now Denmark, Sweden and Norway are simultaneously complimented. To date, 4 Germans, 5 Frenchmen, 3 Dutchmen and 2 Englishmen, 1 Russian and 1 Swiss have been the recipients of the five prizes for medicine, physics, chemistry, literature and promotion of peace. Those in charge of the awards seem to rank research and discovery above invention. The physics prize the first year was given to Röntgen, and last year to Lorentz and Zeemann of Holland, who first announced that optic phenomena could be influenced by magnetic action. Fischer was the recipient of the chemistry prize for his work on the synthesis of sugars, although it was far from recent.

LONDON LETTER.

The Commission on Arsenical Poisoning.

The Royal Commission on Arsenical Poisoning, which was appointed in 1901, after the epidemic of arsenical poisoning due to contaminated beer, has at last issued a final report. Not only the question of contaminated beer but the whole subject of the contamination of food by arsenic was the subject of inquiry. It may be remembered that the epidemic in question was due to the use of brewing sugar (supplied by a single firm) which had become contaminated with the arsenic present in the sulphuric acid used in the conversion of starch into the sugar. The consequent inquiry led to several interesting discoveries. Another source of arsenical contamination was found: Malt is liable to contamination by arsenic volatilized from the coke used in the kiln. The commission have no doubt that arsenical poisoning from this source has occurred, and they describe a small outbreak of this nature which occurred last year at Halifax and was traced to arsenical coke. Reasons are given for the belief that such outbreaks were not uncommon in parts of the country where brewers habitually used malt dried over gas coke, but their true nature was not recognized until Dr. E. S. Reynolds showed the cause of the 1900 epidemic. It is not surprising that arsenic was not previously suspected because the quantity which by constant repetition has been found capable of producing illness is small, and the symptoms differ widely from those of acute poisoning. Beside beer, other articles of food may contain arsenic in the absence of proper precautions. Glucose is an ingredient of several foods in everyday use, and sulphuric acid is used in preparing a variety of food substances, such as table syrups, treacle and some kinds of vinegar. The report also draws attention to the frequent presence of large amounts of arsenic in glycerin, which is a common ingredient in cakes as well as in several mineral and coal-tar coloring substances used in the preparation of foods. The commissioners refuse to regard as negligible any quantity of arsenic in food, however small, as by due care it may be totally excluded. But for practical purposes, in view of the great delicacy of the available tests, they declare that the quantity present should not exceed 1/100 gr. of arsenic per pound, or in the case of fluids 1/100 gr. per gallon.

The London School of Tropical Medicine.

At the London School of Tropical Medicine Sir Patrick Manson delivered a most interesting address on the achievements and requirements of the school. He said that since it was opened on Oct. 3, 1899, over 300 students had passed through its portals. In the earlier days of the school's existance many of the students came for one or two months only. Now a large proportion of the students remained during the full course of three months. When they left the majority had a genuine practical grip of their subject. They had seen, and most of them had applied for themselves, the most recent methods of diagnosis, and as far as teaching and opportunity could insure they were qualified for medical work in the tropics —qualified both to practice their profession and to advance the science of tropical medicine. Where two or three men took a languid interest in tropical diseases some five or six years ago, a whole army of eager investigators had arisen, mainly composed of men educated or inspired by the London and Liverpool

schools of tropical medicine. This multiplication of investigators had already borne remarkable fruit. Without alluding to what had been done in Liverpool he pointed out not a few notable triumphs by men from the London school. He instanced Dr. G. C. Low's work in connection with the etiology of elephantiasis; the practical experiment of Dr. L. Sambon and Dr. Low as to the spread of malaria by mosquitoes; the discovery in the Gambia colony of a new blood parasite, which was subsequently recognized as a trypanosoma by Dr. J. E. Dutton of the Liverpool School of Tropical Medicine, and the demonstration by Dr. A. Castellani, of the association of this parasite with sleeping sickness. Referring to beri-beri he did not despair of getting light on this disease. Dr. C. W. Daniels, the late superintendent of the school, had been placed in charge of the research laboratory at Kurla Lumpur in the Malay States.

Ankylostomiasis in Miners.

In connection with the Liverpool School of Tropical Medicine, on Friday, Mr. Charles Salter delivered a lecture in the Thompson Yates laboratory of Liverpool University on "Ankylostomiasis in Miners." He spoke of his investigations in Westphalia and Belgium and of the measures adopted to eradicate the disease. If a miner, after leaving work neglected to wash his hands before eating, the disease could easily be conveyed, if the dirt on the hands contained larvæ. Expert opinion was divided as to whether the disease could enter through the skin. In his investigation the lecturer could not learn of any instance of workers above ground contracting the malady, except through contact with contaminated miners' clothing. In one instance a boy got the disease through cleaning his father's pit shoes, and in another case a woman was affected by washing her husband's mining clothes. Dampness in mines, and want of sanitary precautions, were among the prime causes of the disease. Disinfectants were costly and useless in preventing the spread of the disease in mines. Proper and adequate sanitary conveniences, strict systematic medical examination, and cleanly habits among the men were requisite. Such precautions had been adopted in Germany and other places with marked beneficial results.

Correspondence.

Circulating Reprints Without Authority.

CHICAGO, Jan. 5, 1904.

To the Editor:—About a year ago I began a series of observations on the therapeutic effects of a new remedy that from analogy I believed would be a valuable sedative, especially for the relief of cough. I presented the unbiased results of these observations to the Illinois State Medical Society last May and the paper was published in the *Illinois State Medical Journal* with no title following my name except M.D. Reprints were made of the article and mailed to many physicians in the state. Subsequently a reprint of this article was republished by the manufacturers of the product without my knowledge or consent, and several titles were placed after my name on the cover page. I knew nothing of this until recently when I received a copy of the reprint with a protest from some physician whose name was not given to me. The titles were only such as may be found after the names of many physicians, yet I think the protest was fully justifiable, for I believe it in exceedingly poor taste to parade one's titles even before the profession, a thing which I am not in the habit of doing. I will deem it a favor if physicians will send me any copies of this reprint they may receive hereafter.

E. FLETCHER INGALS.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

POSSIBILITY OF VACCINIA AFTER SMALLPOX.

SAGINAW, Dec. 29, 1903.

To the Editor:—1. Is it possible for vaccine to work on a person who has recently had smallpox? 2. If so, what would you say as to probabilities following a case in the last three or four years?

P. S. WINDHAM, M.D.

ANSWER.—1. Yes, but very improbable. 2. Very improbable, but less so than after recent smallpox. It should be remembered that some other disease may be mistakenly called smallpox and that a pus lesion may be mistaken for vaccinia.

BLOOD AGGLUTINATION.

PHOENIX, ARIZ., Dec. 26, 1903.

To the Editor:—Please inform me through THE JOURNAL how one can determine the agglutinating power of the human blood and its increase and decrease; also what works, if any, there are on this subject.

JOHN W. FOSS, M.D.

ANSWER.—Agglutination experiments or tests are made by mixing variable quantities of blood serum with the agglutinable objects, e. g., blood corpuscles, bacteria, and then observing the absence or development of definite clumps and masses either under the microscope or in small test tubes. The power of agglutination is generally determined roughly by finding the highest dilution at which the serum causes distinct agglutination. But there is no fixed standard of agglutinating power; it is, in all cases, normal as well as pathologic, subject to variations within wide limits. Assuming that you are especially interested in the agglutination of bacteria by human serum under various conditions, agglutinations that serve as diagnostic helps, we refer you in the first place to such works on the blood as Cabot's, Ewing's, etc., and to the annual reviews of current literature (Progressive Medicine, etc.). So far as we know there are no special books on this aspect of agglutination alone. Numerous articles have appeared in American journals on various aspects of agglutination in various diseases, especially the practical significance of its presence or absence. As an example may be mentioned L. M. Loeb on "The Serum Diagnosis of Tuberculosis," in THE JOURNAL, May 23, 1903.

Marriages.

L. G. STEWART, M.D., to Miss May Tondee, both of Ellaville, Ga., December 23.

FRANK ANTHONY, M.D., Sterling Ill., to Mrs. Allie Sneed of Dixon, Ill., December 26.

LUCIEN STARK, M.D., to Miss Marjorie Guilfoil, both of Hyannis, Neb., December 23.

P. MAXWELL FOSHAY, M.D., to Mrs. Emily Morgan Grim, both of Cleveland, Ohio, January 6.

J. FOSTER MCNARY, M.D., to Miss Mildred Anderson, both of Milwaukee, Wis., December 24.

ALBERT W. CLARK, M.D., to Miss Harriet G. Doran, both of Punxsutawney, Pa., December 9.

R. F. HILLIARD, M.D., Urbana, Va., to Miss Stella Evans of Essex County, Va., December 29.

HARRY A. COSLER, M.D., North Hampton, Ohio, to Miss Emma Myers of Dealton, Ohio, December 29.

HENRY B. A. KUGELER, M.D., San Francisco, to Miss Louise M. Coors of Golden, Colo., December 26.

FRANK P. STAFFORD, M.D., New Carlisle, Ohio, to Miss Alberta Dresback of Sidney, Ohio, December 23.

WILLIAM C. WEST, M.D., Kansas City, Mo., to Miss Estella Bottoms of Westport, Mo., December 16.

MONTGOMERY HUNT SICARD, M.D., to Miss Adelia Avenia Ireland, both of New York City, December 22.

ALFRED LEFTWICH GRAY, M.D., Richmond, Va., to Miss Alice Lear Clark, at Charlottesville, Va., December 23.

IRA E. SEWARD, M.D., Springfield, Ohio, to Miss Laura J. Foreman of Newark, Ohio, at Columbus, December 23.

F. LOMBARD WOODWARD, M.D., Glen Echo, Md., to Miss Maude L. Burnette of Washington, D. C., December 19.

CHARLES LYBRAND BONIFIELD, M.D., Cincinnati, to Miss Grace B. Finney of Northern Ohio, at Cincinnati, December 23.

Deaths.

Edgar L. Carr, M.D. Medical School of Maine, Brunswick, 1864, assistant surgeon in the Thirty-fifth Massachusetts Volunteer Infantry, died at his home in Pittsfield, N. H., December 22, as the result of injuries received in a railway accident eight days before, aged 62.

Charles Merrill Clark, M.D. New York University, 1857, surgeon in the Army during the Civil War, at the close of which he was chief medical officer of the district of southeastern Virginia, died at his home in Chicago, December 28, aged 69.

William H. Bryant, M.D. Kentucky School of Medicine, Louisville, 1853, a pioneer physician of Savannah, Mo., and for many years a member of the state examining board, died at his home, December 24, after a prolonged illness, aged 71.

John M. Otto, M.D. New York University, 1889, of New York City, died at the New York Hospital, December 29, from the result of injuries received in a fall the night before, in which he sustained a fracture of the skull, aged 52.

Ambrose L. Robinson, M.D. Cleveland Homeopathic Medical College, 1895, of Wellsville, Ohio, died at New Castle, Pa., December 25, from injuries sustained by falling from a street car in Wellsville ten days before, aged 38.

Daniel Embury Kissam, M.D. for forty years a physician of Brooklyn, who retired from practice in 1888, died at his home at Huntington Harbor, Long Island, December 23, aged 86. He served as surgeon in the Civil War.

Charles S. Owen, M.D. Chicago Homeopathic College, 1883, of Wheaton, Ill., died at the Chicago Homeopathic Hospital, January 2, from injuries sustained in the fire at the Iroquois Theater, December 30.

Turner P. Oliver, M.D. Medical College of the State of South Carolina, Charleston, 1851, who had practiced for more than half a century in Oglethorpe, Ga., died at Marshall, Texas, December 24, aged 84.

Wilbur F. Harding, M.D. Hahnemann Medical College, Philadelphia, 1857, of Westfield, Mass., died in Northampton, Mass., from fatty degeneration of the heart, December 24, after a short illness, aged 73.

Frances Emily White, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1872, professor of physiology and hygiene in that institution, died at Jamaica Plain, Mass., December 29.

S. Foster Quimby, M.D. Harvard University Medical School, Boston, 1864, died from cerebral hemorrhage at his home in Salem, Mass., December 23, after an illness of four days, aged 63.

John W. Van Zandt, M.D. College of Physicians and Surgeons of New York, 1851, died at his home in Clarkston, Wash., December 23, from paralysis, after an illness of five days, aged 73.

Alfred J. Kurtz, M.D. Hahnemann Medical College, Philadelphia, 1893, died at his home in Philadelphia, December 25, from injuries sustained in being run over a few days before, aged 39.

William J. Weeks, M.D. Harvard University Medical School, Boston, 1897, died at his home in Malden, Mass., December 23, from scarlet fever, after an illness of four days, aged 40.

J. Fenton Underwood, M.D. University of Vermont, Burlington, 1896, died at his home in Penn Yan, N. Y., December 20, from pneumonia, after a short illness, aged 49.

William Kenney, M.D., said to be the oldest physician in Bourbon County, Ky., died at his home in Paris, December 28, after a long illness, from paralysis, aged 85.

Joseph P. Cain, M.D. Medical College of the State of South Carolina, Charleston, 1859, of Pinopolis, S. C., died from pneumonia, December 16, in Charleston, S. C.

Caleb L. Sample, M.D. Pennsylvania, 1856, a surgeon in the Confederate service, died suddenly at his home in Stillmore, Ga., December 23, from heart disease.

Stephen H. Duley, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1878, died in Morris, Minn., December 19, from cirrhosis of the liver, aged 75.

William B. Shuttleworth, M.D. Jefferson Medical College, Philadelphia, 1887, of Martin's Ferry, Ohio, died at Denver, from tuberculosis, December 18.

Richard F. Scruggs, M.D. Jefferson Medical College, Philadelphia, 1859, died at his home in Sweetwater, Tenn., December 28, from pneumonia, aged 70.

Robert S. Reagan, M.D. Jefferson Medical College, Philadelphia, 1880, died at his home in Broad Ford, Pa., December 13, from typhoid fever, aged 52.

T. Erskine Todd, M.D. Jefferson Medical College, Philadelphia, 1876, died suddenly from heart disease at his home in Laurens, S. C., December 25, aged 49.

Edward M. Hardcastle, M.D. Jefferson Medical College, Philadelphia, 1844, died at his home in Easton, Md., December 27, from pneumonia, aged 84.

Samuel Pickering, M.D. Hospital College of Medicine, Louisville, 1879, died at his home in New Castle, Ind., December 21, from paralysis, aged 55.

Jacob De Hart, M.D. Medical College of Ohio, Cincinnati, 1876, died at his home in Williamsport, Ind., December 24, after a long illness, aged 58.

Henry Koch, M.D. University of Heidelberg, Germany, 1874, of Rochester, N. Y., died in the City Hospital in that city, December 13, aged 57.

John Gregory Wellington, M.D. Harvard, but never a practitioner of medicine, died at his home in Middlebury, Vt., December 18, aged 86.

Elias H. Frantz, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Reading, Pa., after a prolonged illness, December 26, aged 56.

Edwin Andrew Millring, M.D. Niagara University, Buffalo, 1890, died from peritonitis at his home in Stockton, N. Y., December 19, aged 34.

Hugh M. Wallis, M.D. Jefferson Medical College, Philadelphia, 1860, died at his home in Houma, near Covington, La., December 26, aged 67.

George F. Bradbury, M.D. University of California, San Francisco, 1878, died at his home in Modesto, Cal., December 22, from angina pectoris.

Daniel E. Thomas, M.D. University of Michigan, Ann Arbor, 1858, died at his home in Constantine, Mich., December 18, from pneumonia, aged 74.

Nathaniel P. Hackett, M.D. Vanderbilt University, Nashville, Tenn., 1887, died at his home in Sherman, Texas, December 21, from pneumonia.

Horatio Dallas Holmes, M.D. of Scircleville, Ind., died at Indianapolis, December 29, from arteriosclerosis, after a long illness, aged 57.

Robert Boocock, M.D. New York Homeopathic Medical College and Hospital, 1891, died at his home in Brooklyn, N. Y., December 28, aged 70.

W. J. Scott, M.D., of Dalby, Northampton County, Va., was found dead in his carriage near Seaview, Va., December 24, aged about 70.

Frank Lunbeck, M.D. College of Physicians and Surgeons of Chicago, 1884, died recently at his home in Kingston, Ohio, from heart disease.

Augustus D. Ruggles, M.D. University of Pennsylvania, Philadelphia, 1865, died at his home in New York City, December 27, aged 63.

Clifford Doyle Boal, M.D. Western Pennsylvania Medical College, Pittsburg, 1901, died at his home in Baden, Pa., December 20, aged 24.

William L. Banfield, M.D. University of Tennessee, Nashville, 1900, died recently at his home in Olive Hill, Rowan County, Ky.

Horace Clifton Taylor, M.D. Eclectic Medical Institute, Cincinnati, 1849, died at his home in Brocton, N. Y., December 21, aged 90.

Adin P. Waid, M.D. University of Buffalo, 1874, died at his home in Buffalo, N. Y., December 21, from cerebral hemorrhage, aged 70.

Isaac N. Gibson, M.D., the oldest physician in Tuscarawas County, died at his home in Uhrichsville, Ohio, December 18, aged 78.

William D. Branyon, M.D. Barnes Medical College, St. Louis, 1899, was shot and instantly killed at Prairie Lea, December 18.

Owen C. Brown, M.D. University of Toronto, 1874, died at his home in Detroit, Mich., December 29, after a long illness, aged 50.

George O. Fraser, M.D. Cleveland Medical College, 1876, died from endocarditis, December 26, at his home in Cleveland, aged 63.

Isaiah B. Wilson, M.D. Medical College of Ohio, Cincinnati, 1877, died at his home in Dayton, Ohio, December 28, aged 58.

J. C. Adams, M.D. Medical College of Ohio, Cincinnati, 1873, died at his home in Gridley, Ill., December 28, from paralysis.

William H. Webb, M.D. Jefferson Medical College, Philadelphia, 1866, died at his home in Philadelphia, December 22.

W. P. Andrews, M.D., Atlanta and Philadelphia, died at his home in Shelby, N. C., after a short illness, aged 80.

W. B. Scarbrough, M.D. Memphis, died at his home in Huntington, Texas, December 14, from pneumonia.

William Coulson Hyde, M.D., died at his home in Detroit, Mich., December 28, from apoplexy, aged 74.

W. D. **Bullington, M.D.** Baltimore, 1903, died at Rincon, N. M., after a long illness, December 25, aged 26.

Wellington **E. Kneeland, M.D.,** died at his home in Lawrence, Mass., December 14, from typhoid fever.

Gabriel **M. Gunn, M.D.,** died at his home in Versailles, Mo., December 19, from pneumonia, aged 50.

William **E. Jones, M.D.,** formerly of Cumberland, Md., died at Evansville, Ind., December 26.

Henry **Bronson, M.D.** University of Vermont, Burlington, 1887, of Chicago, died recently.

Francis **W. Keyes, M.D.,** died at his home in Wilawana, Pa., December 15, aged 69.

Minor **Guinn, M.D.,** died at his home in Blacksburg, S. C., December 9.

Deaths Abroad.

A. **Maffucci, M.D.,** professor of pathologic anatomy at Pisa, died November 25. His researches on pathologic histology and on the physiology of the serous membranes have been valuable. He also first established that the tuberculosis germ can settle in the embryo without inducing any apparent manifestations, and yet develop later in the animal.

T. von **Schroeder, M.D.,** director of the Ophthalmic Institute at St. Petersburg, and for several years editor of the *St. Petersburger Med. Woch.*, died November 18, aged 50. The above journal publishes a list of his 22 most important scientific works, most of them appearing in German periodicals as well as in the Russian.

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G. **Lowenbach, M.D.,** assistant at the syphilis clinic at Vienna and a frequent contributor to the medical press, was killed by an avalanche in Switzerland, in November, at the early age of 31.

C. **Philippe, M.D.,** chief of the laboratory at the Paris Faculty of Medicine, and author of several works on the histology of the nervous system, died in Paris, December 2, aged 38.

G. **De Luca, M.D.,** editor of the *Revista Clinica e Terapeutica*, privat docent of medical pathology at Naples, died November 20.

Book Notices.

POSTMORTEM PATHOLOGY. A Manual of Postmortem Examinations and the Interpretations to Be Drawn Therefrom. A Practical Treatise for Students and Practitioners. By Henry W. Cattell, A.M., M.D., Pathologist to the Philadelphia Hospital. With 162 Illustrations. Cloth. Pp. 372. Price, $3.00. Philadelphia and London. J. B. Lippincott Co. 1903.

This is a unique book. Its title is altogether too modest, for in its 372 pages we are also given elaborate enumerations of etiologic factors, discussion of treatment of wounds sustained in autopsies, directions for autopsies on animals, medicolegal suggestions including the Prussian regulations for the performance of autopsies in medicolegal cases, and finally a chapter entitled: "Usual causes of death; their nomenclature, complications and synonyms." The book is well and profusely illustrated and contains much useful information. The directions for postmortem technic are clear and complete. Unfortunately, this can not be said of the discussions of the pathologic findings. Classifications and tabulations are everywhere indulged in, but they are often confusing and misleading. Unessentials are frequently dwelt on at length, while essentials are barely mentioned or altogether omitted. For instance, infarcts of the kidney are classified as follows (p. 146): (a) calcareous, (b) uric acid, (c) hemoglobin, (d) bilirubin, (e) caused by salts of silver. No mention is made of the common infarcts. The only tumors of the urinary bladder named are cavernous angiomata, dermoid and echinococcic cysts. The others are dismissed with the statement that a considerable variety of tumors exists. Of the causes of acute general peritonitis exposure to cold and wet is given the first place (p. 112). The following classification of cirrhosis of the liver is given: (a) alcoholic, (b) fatty, (c) hypertrophic, (d) capsular, (e) syphilitic, (f) cyanotic, (g) malarial, (h) scarlatinal, (i) tuberculous, (j) rhachitic, (k) anthracotic. This mix-up of etiologic and anatomic factors is noticeable throughout the book. The author leaves us to guess what rôle he means "micro-organisms" to play in various diseases when he merely enumerates the word along with other factors. For instance, chronic bronchitis (p. 98): (a) certain occupations, (b) old age, (c) saprophytic and other organisms, (d) repeated attacks of acute bronchitis. The splenic form of leukemia is called splenic anemia (p. 80). The directions for securing material for bacteriologic examination at autopsies are unsatisfactory. The author does not tell us that it is possible to keep fluids in sterile pipettes and pieces of the organs in sterile test tubes or dishes until one can inoculate media at one's leisure after the autopsy. He describes under separate headings "acute cerebrospinal meningitis" due to the *Diplococcus intracellularis*, and "acute cerebrospinal leptomeningitis." Among the organisms found in the latter the "*Meningococcus*" is mentioned first. On the whole, it seems to us that the book would have been more useful if it had been confined to postmortem technic, gross pathology, and medicolegal suggestions. To scatter a syllabus of general medicine into such a work only creates confusion.

A TEXT-BOOK OF CLINICAL ANATOMY. For Students and Practitioners. By Daniel N. Eisendrath, A.B., M.D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons). Beautifully Illustrated with 153 Illustrations, a Number in Colors. Cloth. Pp. 515. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The term "Clinical Anatomy" is used to mean "anatomic knowledge as applied to every branch of clinical work," or the study of anatomy from the living subject rather than in the dissecting room. The chief feature of this work which distinguishes it from the ordinary is an attempt to outline in black on the surface of the living body the supposed location of the various organs, structures, tissues, etc., and then the photographing of the subject. As a result erroneous ideas are often conveyed. For instance, Figure 16 shows the region occupied by the parotid gland as decidedly too small, and the direction of the spinal accessory nerve as too transverse. Figure 32 shows the carotids as diverging, which is not correct, and they appear to become superficial, directly under the skin, while they are deeply situated. The division of the innominate is shown much too high, as is also the lower border of the pleura. While there are slight variations in the normal location of the kidney, Figure 42 can not be considered to represent the average normal relation of right kidney, lower edge of pleura and twelfth rib. Many of the illustrations can be looked on as simply diagrammatic and only roughly representing conditions present. There is altogether too much duplication of illustrations. For instance, Figure 21 has been introduced four times, Figure 52 three times, Figure 48 three times, while many others have been introduced twice. As the lettering and description is identical in each case there does not appear to be any good reason for so much duplication. Occasionally the text does not agree with the illustrations; for instance, on page 207 it is stated that "the lowest point of the kidney reaches down to a line drawn between the lower borders of the curves of the tenth costal cartilages." This does not agree with Figure 42. These criticisms are made with the best of motives; a book such as this should be absolutely correct and reliable; if it is not, those who expect to rely on it should be informed. The general idea and the plan of the book are most excellent, and the work will be of great value to operators who are not sure of their anatomy. The illustrations, as a rule, are excellent and reliable, and some of them, particularly those taken from actual dissections, are very good.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals, etc. Fourth Edition, Revised and Enlarged, with 746 Illustrations, 39 of Them in Colors. Pp. 899. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The previous editions of Hirst's book have received adequate review; the present volume, the fourth within five years, has many additions to the text, and the illustrations have been considerably increased, which materially enhance its value. Two topics which largely have been carried from the first edition,

William H. Bryant, M.D. Kentucky School of Medicine, Louisville, 1853, a pioneer physician of Savannah, Mo., and for many years a member of the state examining board, died at his home, December 24, after a prolonged illness, aged 71.

John M. Otto, M.D. New York University, 1889, of New York City, died at the New York Hospital, December 29, from the result of injuries received in a fall the night before, in which he sustained a fracture of the skull, aged 52.

Ambrose L. Robinson, M.D. Cleveland Homeopathic Medical College, 1895, of Wellsville, Ohio, died at New Castle, Pa., December 25, from injuries sustained by falling from a street car in Wellsville ten days before, aged 38.

Daniel Embury Kissam, M.D. for forty years a physician of Brooklyn, who retired from practice in 1888, died at his home at Huntington Harbor, Long Island, December 23, aged 86. He served as surgeon in the Civil War.

Charles S. Owen, M.D. Chicago Homeopathic College, 1883, of Wheaton, Ill., died at the Chicago Homeopathic Hospital, January 2, from injuries sustained in the fire at the Iroquois Theater, December 30.

Turner P. Oliver, M.D. Medical College of the State of South Carolina, Charleston, 1851, who had practiced for more than half a century in Oglethorpe, Ga., died at Marshall, Texas, December 24, aged 84.

Wilbur F. Harding, M.D. Hahnemann Medical College, Philadelphia, 1857, of Westfield, Mass., died in Northampton, Mass., from fatty degeneration of the heart, December 24, after a short illness, aged 73.

Frances Emily White, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1872, professor of physiology and hygiene in that institution, died at Jamaica Plain, Mass., December 29.

S. Foster Quimby, M.D. Harvard University Medical School, Boston, 1864, died from cerebral hemorrhage at his home in Salem, Mass., December 23, after an illness of four days, aged 63.

John W. Van Zandt, M.D. College of Physicians and Surgeons of New York, 1851, died at his home in Clarkston, Wash., December 23, from paralysis, after an illness of five days, aged 73.

Alfred J. Kurtz, M.D. Hahnemann Medical College, Philadelphia, 1893, died at his home in Philadelphia, December 25, from injuries sustained in being run over a few days before, aged 39.

William J. Weeks, M.D. Harvard University Medical School, Boston, 1897, died at his home in Malden, Mass., December 23, from scarlet fever, after an illness of four days, aged 40.

J. Fenton Underwood, M.D. University of Vermont, Burlington, 1896, died at his home in Penn Yan, N. Y., December 20, from pneumonia, after a short illness, aged 49.

William Kenney, M.D., said to be the oldest physician in Bourbon County, Ky., died at his home in Paris, December 28, after a long illness, from paralysis, aged 85.

Joseph P. Cain, M.D. Medical College of the State of South Carolina, Charleston, 1859, of Pinopolis, S. C., died from pneumonia, December 16, in Charleston, S. C.

Caleb L. Sample, M.D. Pennsylvania, 1856, a surgeon in the Confederate service, died suddenly at his home in Stillmore, Ga., December 23, from heart disease.

Stephen H. Duley, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1878, died in Morris, Minn., December 19, from cirrhosis of the liver, aged 75.

William B. Shuttleworth, M.D. Jefferson Medical College, Philadelphia, 1887, of Martin's Ferry, Ohio, died at Denver, from tuberculosis, December 18.

Richard F. Scruggs, M.D. Jefferson Medical College, Philadelphia, 1859, died at his home in Sweetwater, Tenn., December 28, from pneumonia, aged 70.

Robert S. Reagan, M.D. Jefferson Medical College, Philadelphia, 1880, died at his home in Broad Ford, Pa., December 13, from typhoid fever, aged 52.

T. Erskine Todd, M.D. Jefferson Medical College, Philadelphia, 1876, died suddenly from heart disease at his home in Laurens, S. C., December 25, aged 49.

Edward M. Hardcastle, M.D. Jefferson Medical College, Philadelphia, 1844, died at his home in Easton, Md., December 27, from pneumonia, aged 84.

Samuel Pickering, M.D. Hospital College of Medicine, Louisville, 1879, died at his home in New Castle, Ind., December 21, from paralysis, aged 55.

Jacob De Hart, M.D. Medical College of Ohio, Cincinnati, 1876, died at his home in Williamsport, Ind., December 24, after a long illness, aged 58.

Henry Koch, M.D. University of Heidelberg, Germany, 1874, of Rochester, N. Y., died in the City Hospital in that city, December 13, aged 57.

John Gregory Wellington, M.D. Harvard, but never a practitioner of medicine, died at his home in Middlebury, Vt., December 18, aged 86.

Elias H. Frantz, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Reading, Pa., after a prolonged illness, December 26, aged 56.

Edwin Andrew Millring, M.D. Niagara University, Buffalo, 1890, died from peritonitis at his home in Stockton, N. Y., December 19, aged 34.

Hugh M. Wallis, M.D. Jefferson Medical College, Philadelphia, 1860, died at his home in Houma, near Covington, La., December 26, aged 67.

George F. Bradbury, M.D. University of California, San Francisco, 1878, died at his home in Modesto, Cal., December 22, from angina pectoris.

Daniel E. Thomas, M.D. University of Michigan, Ann Arbor, 1858, died at his home in Constantine, Mich., December 18, from pneumonia, aged 74.

Nathaniel P. Hackett, M.D. Vanderbilt University, Nashville, Tenn., 1887, died at his home in Sherman, Texas, December 21, from pneumonia.

Horatio Dallas Holmes, M.D. of Scircleville, Ind., died at Indianapolis, December 29, from arteriosclerosis, after a long illness, aged 57.

Robert Boocock, M.D. New York Homeopathic Medical College and Hospital, 1891, died at his home in Brooklyn, N. Y., December 28, aged 70.

W. J. Scott, M.D., of Dalby, Northampton County, Va., was found dead in his carriage near Seaview, Va., December 24, aged about 70.

Frank Lunbeck, M.D. College of Physicians and Surgeons of Chicago, 1884, died recently at his home in Kingston, Ohio, from heart disease.

Augustus D. Ruggles, M.D. University of Pennsylvania, Philadelphia, 1865, died at his home in New York City, December 27, aged 63.

Clifford Doyle Boal, M.D. Western Pennsylvania Medical College, Pittsburg, 1901, died at his home in Baden, Pa., December 20, aged 24.

William L. Banfield, M.D. University of Tennessee, Nashville, 1900, died recently at his home in Olive Hill, Rowan County, Ky.

Horace Clifton Taylor, M.D. Eclectic Medical Institute, Cincinnati, 1849, died at his home in Brocton, N. Y., December 21, aged 90.

Adin P. Waid, M.D. University of Buffalo, 1874, died at his home in Buffalo, N. Y., December 21, from cerebral hemorrhage, aged 70.

Isaac N. Gibson, M.D., the oldest physician in Tuscarawas County, died at his home in Uhrichsville, Ohio, December 18, aged 78.

William D. Branyon, M.D. Barnes Medical College, St. Louis, 1899, was shot and instantly killed at Prairie Lea, December 18.

Owen C. Brown, M.D. University of Toronto, 1874, died at his home in Detroit, Mich., December 29, after a long illness, aged 50.

George O. Fraser, M.D. Cleveland Medical College, 1876, died from endocarditis, December 26, at his home in Cleveland, aged 63.

Isaiah B. Wilson, M.D. Medical College of Ohio, Cincinnati, 1877, died at his home in Dayton, Ohio, December 28, aged 58.

J. C. Adams, M.D. Medical College of Ohio, Cincinnati, 1873, died at his home in Gridley, Ill., December 28, from paralysis.

William H. Webb, M.D. Jefferson Medical College, Philadelphia, 1866, died at his home in Philadelphia, December 22.

W. P. Andrews, M.D., Atlanta and Philadelphia, died at his home in Shelby, N. C., after a short illness, aged 80.

W. B. Scarbrough, M.D. Memphis, died at his home in Huntington, Texas, December 14, from pneumonia.

William Coulson Hyde, M.D., died at his home in Detroit, Mich., December 28, from apoplexy, aged 74.

W. D. **Bullington, M.D.** Baltimore, 1903, died at Rincon, N. M., after a long illness, December 25, aged 26.

Wellington **E. Kneeland, M.D.,** died at his home in Lawrence, Mass., December 14, from typhoid fever.

Gabriel **M. Gunn, M.D.,** died at his home in Versailles, Mo., December 19, from pneumonia, aged 50.

William **E. Jones, M.D.,** formerly of Cumberland, Md., died at Evansville, Ind., December 26.

Henry **Bronson, M.D.** University of Vermont, Burlington, 1887, of Chicago, died recently.

Francis **W. Keyes, M.D.,** died at his home in Wilawana, Pa., December 15, aged 69.

Minor **Guinn, M.D.,** died at his home in Blacksburg, S. C., December 9.

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however, are not above question. In view of the recent advances in the operative dilatation of the parturient os, and the behests of Denman and others a century ago that the os must be completely dilated before forceps may be applied, it seems unwise to recommend that forceps be applied through a partially dilated os, and to overcome the resistance of a cicatrized contraction of the cervix by traction. Likewise, the advice to perform version, then rapid extraction, through the partially dilated, rigid os, generally will mean a dead baby, and extensive, dangerous lacerations into the parametrium; it is a teaching which can not be too strongly deprecated. Under the caption of "Puerperal Sepsis" one may well be surprised to find an absence of detailed description of saprophytic or putrid infection; the mere incidental reference is not commensurate to the importance of the subject—the diagnosis, prognosis, and treatment differ so materially from the coccic infections that the omission is a grave one. We can not countenance the mandate that when in doubt all thermal disturbances in the puerperium should be considered puerperal infection and treated accordingly. Further, the growing conviction of obstetricians is against the routine curettage and repeated intrauterine douching. It seems unfair to ignore these recent teachings, and to recommend unqualifiedly these two procedures is running counter to the accumulating evidence that an expectant policy often gives best results, and sometimes active interference directly jeopardizes the patient. This expectancy is especially indicated when doubt as to the true nature of the malady is present. In spite of these criticisms, however, Hirst's textbook deserves the success it has had as a working guide for the student. The publishers' work has been done as beautifully as before.

THE WORTH OF WORDS. By Dr. Ralcy Husted Bell. With an Introduction by Dr. William Colby Cooper. Third Edition, Revised and Enlarged. Cloth. Pp. 307. Price, $1.25. New York: Hinds & Noble.

This book is made entertaining by the author's pointed and humorous style and by his frequent use of pertinent anecdote. We agree with a certain reviewer of the book who regretted the title given it, because he feared that it would keep the book away from a great many persons who ought to read it, and from many more who would delight in it. But to recommend Dr. Bell as an authority is another matter. It is a delicate undertaking to sit in judgment on the constantly changing English language, of which some one has well said that it is hard to tell which is the rule and which the exception. Dr. Bell says he is not dogmatic; we fear some would so describe him. At least, he is partial and inconsistent in some particulars, for example: he condemns telegram, but admits telegraph; while he approves epigram, epigraph, monogram and monograph. He condemns photographer and gives his reason—its being made from two languages—but he says "geographer and biographer are exceptions firmly fixed in the language." We think photographer is as firmly fixed. He says bread-knife is a good word, being an abbreviation for "knife for bread," but he says cook-stove is vulgar. Is this not an abbreviation for "the stove of the cook," and is not Dr. Bell's criticism a case of the pot calling the kettle black? It is noticeable that the author himself occasionally slips into what we would call unjustifiable slang, as when he speaks of a rather innocent nickname (sky pilot) as fitting its subject "so ghastly well." Another matter for criticism is that when he is noticing his own critics his hatred of cacology, like Dowie's piety, does not prevent him from using expressions that are hardly permissible in polite usage. In spite of these, however, the book will certainly interest its readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-patient Medical Department of the Jefferson Medical College Hospital. Volume III. September, 1903. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood Vessels; Dermatology and Syphilis; Diseases of the Nervous System; Obstetrics. Cloth. Pp. 398. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1903.

This work, which is properly a serial, is a summary of the advance in certain lines of medical science. The subjects here discussed are diseases of the thorax and its viscera, including the heart and lungs, of which the recent literature is very adequately epitomized by Dr. William Ewart; dermatology and syphilis by William S. Gottheil; diseases of the nervous system by Dr. William G. Spiller and obstetrics by Dr. Richard C. Norris. In all four departments the book will be found well up to date and contains a well-digested summary of the principal contributions to the recent literature. We can say nothing but good of this series which Dr. Hare has so ably edited during the past few years.

SURGICAL DISEASES OF THE ABDOMEN, with Special Reference to Diagnosis. By Richard Douglas, M.D., Formerly Professor of Gynecology and Abdominal Surgery, Medical Department Vanderbilt University. Illustrated by 20 Full-page Plates. Cloth. Pp. 883. Price, $7.00. Philadelphia: P. Blakiston's Son & Co. 1903.

This work of nearly 900 pages treats of practically all the diseases and injuries of the abdomen which are likely to come under the care of the surgeon, or to require surgical treatment. As is to be expected from the title, questions relating to diagnosis are most extensively elaborated, but the other phases of the subjects have not been neglected. Treatment is the least touched on of all. Under this heading only generalities are given, and no attempt has been made to enter into the details of operative procedures or methods of treatment. This is a disappointment, for had the author extended his earnest and conscientious style so as to include this phase, it would have enhanced the value of an already excellent work. The views expressed are clearly those of a modern and aggressive man, and there is little to criticise in this regard. There is some tendency to repetition, and condensation at times would improve the text. The illustrations, only 20 in number, could be materially increased with advantage. The work, as a whole, however, is excellent, and one which should be consulted by the physician as well as the surgeon.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By George L. Richards, M.D., Fellow American Laryngological, Rhinological and Otological Society. Cloth. Pp. 330. Price, $2.00. Published by International Journal of Surgery Company, N. Y.

This is one of the smaller text-books which makes no pretense to being complete, but aims to meet the needs of the general practitioner. For such it will prove useful and practical.

Miscellany.

A Libel Exposed.—The following item has been going the rounds of the newspapers, in a few instances commented on editorially against the profession of course:

MUST FIRST SEE A FEE.

DOCTORS WHO WON'T SERVE UNLESS PAID IN ADVANCE.

INDIANAPOLIS, Dec. 22.—The long-heralded trust of physicians formed in Anderson has finally been demonstrated to be a fact. As a result of its operations the infant child of Mr. and Mrs. Albert Graham will die of burns received three days ago.

The Graham family is poor, and when the child was injured Mrs. Graham was forced to admit to the physicians she attempted to summon that she could not pay the fee for services until later. The agonized mother called on sixteen different doctors in vain, all refusing to attend the child until paid in advance.

The trust is said to have been formed several weeks ago. All the prominent doctors of the city are alleged to be members, binding themselves to treat no patient who owes for former professional services, and at the same time agreeing to attend no patient whose financial standing is not assured until the fee is paid in advance.

Knowing that there was little, if any, truth in the above, we wrote to Dr. O. E. McWilliams, Anderson, Ind., secretary of the Madison County Medical Society, asking him to give us the facts in the case. The following is his reply:

ANDERSON, IND., Dec. 26, 1903.

To the Editor:—In replying to yours of the 24 inst., I have to say that I called on the Mrs. Graham to-day, and this is her statement:

That on Dec. 16, 1903, her child received a burn and she immediately called a physician by telephone; the first physician she called was not at home, the second was busy in his office and could not leave at once. She thought after calling these two she would go back home and see how bad the child was, as she was scared at first and she thought, perhaps, it was not as bad as she first thought it. When she arrived a

home she saw the burn was not bad and said she would dress it herself, which she did. On the following morning, December 17, she thought she would be better satisfied if a physician should see the burn and she called a physician, who answered the call at once. Not having been informed as to the nature of the case, he had nothing with him to dress a burn, and advised the mother to call the township trustee and have him send a physician, which the mother did and the township trustee furnished a physician at once. The burn covered an area of two by six inches on the arm and the skin was not destroyed across the middle of the burn. It was a superficial burn of no consequence, nor did the mother think it of any consequence, but thought she would be better satisfied to have a physician see it. The mother said the physicians called said nothing to her about the pay for the calls, neither did she say anything about the money part of the transaction, nor does she suspect or have the least information of the notoriety she has had.

For the medical profession of Anderson, I can say that I think we have as honorable physicians as can be found any place, and I think they are all upright, honest gentlemen. I wish I could say as much of the newspapers here. They are always trying to manufacture sensational articles, and mostly out of nothing, as in this case. O. E. MCWILLIAMS.

Prophylaxis of Color Blindness.—Dr. R. Roselli has examined 100 children in respect to their color-sense. He found that it was more developed the more intelligent the children, and was most acute in girls. In a large proportion, however, it was defective; the children were unable to distinguish between various colors, but by exercises and training them to discriminate he found that all soon acquired normal color sense. He deduces the conclusion that non-acquired color blindness in the adult is due to the lack of exercise in distinguishing between colors in early life. The nerve fibrils for perception of colors become atrophied from disuse, and this in time entails an optic impotency for colors.—*Annali di Ottalmologia*, xxxii, 7-8, 1903.

Collargol Injected Per Rectum.—Schlesinger of Vienna proclaims that his experience has established that collargol is as effective injected by the rectum as when the intravenous route is followed. In certain cases the latter is impracticable, owing to the small size of the veins or the obesity of the patient. He found that the course of severe sepsis changed decidedly for the better in 3 cases under the influence of rectal injection of .15 to .3 gm. collargol in 75 gm. distilled water, repeated twice daily and kept up for eight days. One was a puerperal process, another thrombophlebitis after typhoid fever. In 4 other cases these injections had to be abandoned on account of pneumonia, septic diarrhea or negative results. Six febrile consumptives treated with the collargol per rectum have not shown any benefit to date.

The Birth and Origin of Syphilis.

BY JOHN KNOTT, M.D.
DUBLIN, IRELAND.

It is a singular fact in the history of medicine that the date and the locality of the origin of syphilis have never been settled, although both have been frequently discussed ever since that disease was first definitely described in writing. A widespread story of its origin was that it was imported to Europe by the crews of Columbus from Hayti—having previously been utterly unknown on that side of the Atlantic. And that it was communicated to the French besiegers by the Spanish garrison of Naples in 1494, and thence rapidly dispersed throughout Europe. The degree of credit which the French received for its propagation is well shown by the epithet by which it was most generally known and described by physicians for the succeeding couple of centuries: that of *morbus Gallicus*. From the original locus of its European center of propagation, it was sometimes referred to as *morbus Neapolitanus;* and, on account of the ascribed Spanish-American importation, it also received the compound epithet of *scabies Hispanica*.

The racial antipathies of dirt-throwing patriots sometimes found partial vent in transferring the pathologic scandal to the nationalities whom they respectively most detested. In this way the Gallic surname of the loathsome plague was from time to time fitfully displaced in favor of that of each of the other warring nations. So that it has been called the "German disease," "Polish disease," "Turkish disease"; by the Turks the "Christians' disease," and so on. Even the name *syphilis*, by which it is now universally known, remains to the present day the *pons asinorum* of medical etymologists. Whatever may be the actual derivation of the term, its history does not appear to be traceable further back than its use by the famous Italian poet-physician, Jerome Fracastorio (1482-1553), whose metrical description of the disease, under the name *syphilis, sive morbus Gallicus*, still remains the best of the early accounts of its prominent features.

THE ORIGINAL EUROPEAN EPIDEMIC OF SYPHILIS.

Short and very sketchy accounts of the new plague began to appear in the closing years of the fifteenth century; indeed, almost from the date of the famous siege of Naples (1494), at which it was then said to have made its first appearance. But, in connection with the story of the West Indian source of the infection, it is specially significant to note that there was no such statement made before the year 1525. But if the assertion of an American genesis of the venereal germ is conspicuous by its absence, its place is supplied with a kaleidoscopic variety of statements and theories which collectively give a very impressive idea of the infantile inventiveness and credulity which characterize the pathology of the Renaissance period.

Two of the most prominent and learned physicians of the day confidently announced their belief that the origin of the "French disease" was due to the close "conjunction" of the sun with the planets Mercury, Jupiter and Saturn, which occurred in the year 1483—which also marked the advent of one of the greatest sources of moral disturbance and destructiveness of vested interest which Europe had experienced for many centuries, in the birth of the religious iconoclast, Martin Luther! As it so happened that the year in which the great initial epidemic of venereal disease spread over Italy was also characterized by exceptionally heavy rains and inundations, the still more famous physician, Nicolaus Leonicenus, discarded the astrologic theory of Corradino Gillini and Gaspare Torella, and advanced the less elevated meteorologic one—that the outbreak of this foul disorder was really engendered by the excessive amount of moisture then existing in the heavens above and in, as well as on, the earth beneath. The great reputation of this physician governed the opinion of many subsequent authorities.

Manardi and Paracelsus both ascribed the origin of the new disease to the intercourse of a leprous man and a prostitute; the former knew of the case—the man was a Valentian by birth; the evidence possessed by Paracelsus was similar, but the male partner in his case was of French nativity. The celebrated Antonius Musa Brassavola of Ferrara informed the professional world that the original epidemic of the French evil spread from the person of a female camp-follower of the French army at the siege of Naples. But a widely different account was furnished by the famous Gabriel Fallopius of Modena—of anatomic immortality—who avers that the Spaniards, when hard-pressed by their French besiegers, poisoned the wells from which the latter obtained their supply of water, and that the new epidemic arose from that cause alone.

The celebrated Andrea Cesalpino—of physiologic immortality—tells us that he learned from persons who had been present at the siege of Naples and the other operations of that campaign that the disease really originated at the siege of Lomma, a village of the Vesuvian territory. There was a great quantity of an excellent (and much-coveted) Greek wine shut up there. One night the besieged Spanish garrison managed to effect their escape, leaving behind them the greater part of their wine—which they had previously mingled with the blood of the sick of San Lazaro. The French besiegers, on

entering the place next day, with the usual pillaging instincts of "that dissipated nation," drank freely of the luscious wine —after which they soon began to develop venereal symptoms. The noted Bolognese physician, Leonardo Fioravanti, states that he was informed by the son of a person who had been sutler to the army of Alfonso, King of Naples, that when the meat supply began to run short on account of the prolongation of the war this sutler supplied the camps with dressed human flesh instead. The unconscious cannibalism which followed the grewsome fraud was the immediate cause of the development of the *morbus Gallicus*. Indeed, the famous English philosopher, Lord Chancellor Bacon, quotes this story, as he does so many other "old wives' tales," with patronizing credulity; and informs us, too, that the human flesh supplied on that epoch-making occasion was of men killed in Barbary, and which had been prepared and dressed after the manner employed with that of tunny-fish.

While so much mythologic lore remains connected with the origin of the great epidemic of syphilis which swept Europe at that date, it is no matter for surprise that the question of the existence of the disease in ancient times still remains a matter of dispute.

34 York Street.

Association News.

List of new members for the month of December, 1903:

ALABAMA.

Inge, J. T., Mobile.
Bandy, E. C., Oxmoor.
Howell, S. M. C., Midland City.
Penn, R. L., Basham.
Acton, S. W., Trussville.
Hill, E. P., McShaw.

ARKANSAS.

Ellsworth, P. H., Hot Springs.
Jelks, F. W., Hot Springs.
Davis, E. N., Little Rock.
Ward, Wm. W., Victoria.
Youngblood, Fred, Huntsville.
Lowe, A. M., Gillett.
Hesterly, Albert, Sayre.
Bradley, Wm. A., Jasper.
Huffaker, Granville B., Russell.
Hunt, Wm. J., Macedonia.
Wood, B. G., Cominton.
Willis, Lemual E., Newport.
McKnight, E. D., Brinkley.
Howell, A. R., Argenta.
Causey, G. A., Swifton.

CALIFORNIA.

Winterberg, W. H., San Francisco.
Herzstein, Morris, San Francisco.
Stillman, Stanley, San Francisco.
Richter, C. M., San Francisco.
Allen, H. W., San Francisco.
Sprague, Frances R., San Francisco.
O'Connell, Maurice W., San Francisco.
Dunn, J. P., Oakland.
Channell, D. B., Oakland.
Sinclair, O. W., Eureka.
Falk, C. C., Eureka.
Falk, Curtis O., Eureka.
Mills, Chas. W., Areata.
Newcomb, A. T., Pasadena.
Cothran, A. Lincoln, Jan Jose.
Ford, J. C., Rocklin.
Liverman, J. R., San Lucas.
Flint, W. H., Santa Barbara.
Alderson, H. E., San Francisco.
Wahl, H. A., San Francisco.

COLORADO.

Rothrock, F. B., Colorado Springs.
McLean, C. H., Denver.
Moleen, G. A., Denver.
Burcell, E. C., Elyria.
Allen, H. W., Boulder.
McDougal, L. E., Canon City.
McClure, C. O., Starkville.
Roe, J. F., Salida.
Bailey, M. M., Loveland.

CONNECTICUT.

Littlejohns, P. D., New Haven.
Daggett, W. G., New Haven.

FLORIDA.

Upchurch, N. A., Jacksonville.

GEORGIA.

Smith, Wm. T., Robley.
Moorman, Ivy W., Ambrose.
Belcher, Francis S., Mansfield.
Smith, R. E., Savannah.
Barge, A. A., Newnan.
Van Marter, Jas. G., Savannah.
Adams, F. L., Elberton.
Palmer, J. W., Alley.

ILLINOIS.

Graham, Jas. F., Chicago.
Zapffe, F. C., Chicago.
Hollister, J. C., Chicago.
Murphy, D. E., Chicago.
Cleverdon, Ella, Chicago.
Goldberger, Henry E., Chicago.
Osbaldeston, J. T., Chicago.
Brown, R. E., Chicago.
Luckhardt, A. E., Chicago.
Newhall, G. F., Chicago.
McPherson, P., Chicago.
Gabriel, E. J., Payson.
Hilton, G. F., St. Augustine.
Crabtree, B. F., Pulaski.
Grosvenor, L. N., Chicago.
Green, R. L., Peoria.
Kerr, Chas., Springfield.
Muehlmann, C. G., Pekin.
Fountain, J. H., Chapin.
Broening, M., Carlyle.
Wales, Albert H., Lanark.
Dow, E. L., Rock Falls.
Pershing, F. O., Tiskilwa.
Clark, E. E., Cerro Gordo.
Ware, H. A., Chicago.

INDIANA.

Rogers, J. G., Logansport.
Hetherington, J. P., Logansport.
Wallace, J. C., Ft. Wayne.
Selman, J. W., Greenfield.
Fattic, J. B., Anderson.
Hazlewood, John, New Albany.
Kell, S. D., Liberty.
Hughes, H. J., Kramer.
Terhune, R. W., Whiteland.
Wyeth, Chas., Terre Haute.
Ward, J. M., Kewanna.
Yocum, B., Coal City.

INDIAN TERRITORY.

Rice, O. W., Buck.
Pigg, Wm. B., So. McAlister.

IOWA.

Droz, A. J., West Chester.
Richmond, A. C., Ft. Madison.
McWilliams, C., Ames.
McCarthy, D. J., Davenport.
Nordstrum, S. G., Sioux Rapids.
Gockley, A. S., Carroll.
Buxton, O. C., Woodward.
Reiley, W. S., Red Oak.
Clark, G. H., Waterloo.
Seidler, W. A., Jamaica.
Clegg, C. S., Columbus Junc.
Shirley, G. F., Missouri Valley.
Petersen, H. P. C., Radcliffe.
Wilson, J. B., Ottumwa.
Braunlich, Henry, Davenport.
Hunter, H. C., Sheffield.
Beveridge, Thos. F., Muscatine.
Bellinger, M. J., Council Bluffs.
Kelleher, T. F., Des Moines.

KANSAS.

Finley, M. A., Cherry Vale.
Dykes, S. B., Esbon.
Campbell, D. W., Atchison.

KENTUCKY.

Moraweck, Ernest, Louisville.
Ferguson, J. W., Shawhan.
Lapsley, Frank P., Paris.
Burr, Wm. R., Auburn.
Trabue, L. P., Elkton.
Hart, Jas. G., Murray.
Howard, C. E., Benton.
Hancock, D. O., Henderson.
Leech, J. S., Glasgow.
Wallace, H. H., Hopkinsville.
Dunham, Christopher C., Pineville.
Parker, J. W., Gray.
Slaton, A. J., Leitchfield.
Willmott, A. C., Hutchison.
Williams, J. E., Morton's Gap.
Furnish, J. G., Lakeland.
Byrne, Walter, Russellville.
McCreary, J. C., Cave City.
London, Willis, Franklin.
Swango, O. H., Jackson.
Cox, S. A., Bardstown.

LOUISIANA.

Eustis, A. C., New Orleans.
Fridge, J. R., Baton Rouge.
Mauboules, J. P., Rayne.
Choppin, A. R., Lamothe.

MAINE.

Bemis, O. L., Bangor.
Clough, D. J., Portland.
Brown, F. I., So. Portland.
Judkins, N. C., Rockland.
Adams, F. B., Rockland.

MARYLAND.

Massenburg, R. C., Towson.
MacCallum, W. G., Baltimore.

MASSACHUSETTS.

Davis, S. R., Lynn.
Fletcher, R. W., So. Boston.
Small, A. E., Clinton.
Locke, E. A., Boston.
Cary, F. H., Worcester.
Ripley, W. L., Newton.
Fennessey, J. F., Boston.
Gardner, C. K., Northampton.
Cheever, C. A., Mattapan.

MICHIGAN.

Dees, C. J., Detroit.
Cleland, J., Jr., Detroit.
Pearson, C. B., Grand Blanc.
Lee, S. S., Osceola Mine.
Clark, D. R., Dearborn.
Taylor, W. J., Burnside.
Harvey, W. M., Detroit.
Wendt, C. R., Jackson.
Suiter, J. P., Hadley.
Sumner, B. R., Clinton.
Green, B. F., Hillsdale.
Heavenrich, Theo., Pt. Huron.
Ward, W. E., Owosso.
Long, C. B., Mendon.
Scott, F. A., Davis.

MINNESOTA.

Riley, E. A., Willow River.
Aurand, W. H., Minneapolis.

MISSISSIPPI.

Backstrom, J. L., Crenshaw.

MISSOURI.

Spooner, Ernest H., St. Louis.
Reyling, F. T., Kansas City.
Lee, Herbert, St. Joseph.
Dwight, K. M., Hamilton.
Bogart, T. N., Excelsior Springs.
Graham, R. E., Columbia.
Beeman, S. M., Chillicothe.
Davis, T. O., Maitland.
Lare, H. S. P., St. Louis.
Howard, O. L., St. Louis.
Lockwood, W. A., Conway.
Breuer, W. H., St. James.

NEBRASKA.

Borglum, J. M., Omaha.
Wilson, S. S., Nebraska City.
Thompson, J. W., Sutton.
Byers, J. N., Fontanelle.
Carson, W. T., Holstein.
Kee, A. L., Holbrook.
Roberts, D. H., Bethany.
Byers, S. J., Snyder.
Wigglesworth, T., Hooper.
Stewart, E. R., Blair.
Bedal, M. D., Blair.
Case, E. S., Stockville.
McElwee, F. M., Macon.
Lester, F. W., David City.
Beach, S. C., McCook.
Hazle, M. M., Cedar Rapids.
Burgess, F. D., Cedar Rapids.
Grimm, P. G., Arlington.
Walker, D. G., Lindsay.
Simon, Frank, Oakland.
Robinson, C. O., Blair.
Cross, A., Crawford.

NEW HAMPSHIRE.

Meserve, J. S., Dover.
Cummings, F. R., Concord.

NEW JERSEY.

Harvey, E. H., Atlantic City.
Risk, Wm. H., Summit.

NEW YORK.

Merritt, L. J., Pine Bush.
Cleland, C. S., Sinclairville.
Moulton, W. A., Nichols.
Blake, Jos. A., New York City.
Onuf, B., Sonyea.

OHIO.

Waters, P. T., Chattanooga.
Bernheim, Ruth, Cincinnati.
Marxmiller, H. G., Cincinnati.
Middleton, W. B., Cuyahoga Falls.
Seward, I. E., Springfield.
Link, J. A., Springfield.
Smith, A. K., Logan.
Cox, M. E., Murray City.
Barnes, E. J., Granville.
Barnes, S. S. P., Massillon.
Davis, J. W., Defiance.
Patterson, Chas. E., Morning Sun.
Pherson, A. M., Osborn.
Hickin, F. W., Cleveland.
Banker, D. F., Canton.
Weeks, D. O., Marion.
Gunsolly, W. N., Collinwood.
Benkert, L. C., Columbus.
Foltz, E. B., Akron.
Schirrmann, H. A., Portsmouth.

OKLAHOMA.

Barker, E. O., Guthrie.
Muzzy, W. J., El Reno.

OREGON.

Henderson, H. L., Astoria.
Finch, A. A., Astoria.
Thomas, C. W., Milton.

PENNSYLVANIA.

Chestnut, J. C., Philadelphia.
Birney, H. H., Philadelphia.
Cairns, A. A., Philadelphia.
Connor, F. M., Philadelphia.
Keller, A. P., Philadelphia.
Moore, H. D., Philadelphia.
Bainbridge, E. H., Philadelphia.
Boenning, H. C., Philadelphia.
Behrend, Moses, Philadelphia.
Wightman, J. G., Philadelphia.
Hawkins, J. A., Pittsburg.
Schneider, Chas., So. Williamsport.
Cummings, C. J., Williamsport.
Winter, S. Eliz., W. Conshohocken.
Fink, H. M., Allegheny.
Millhoff, C. B., Johnstown.
Neuber, S. T., Philadelphia.
Ward, E. T., Philadelphia.

TENNESSEE.

Moore, Moore, Memphis.
Tucker, N. M., Leipers Fork.
Shields, D. E., Morristown.
Wright, I. M., Tiptonville.
Copeland, W. J., Fetzerton.
McNabb, Chas. P., Knoxville.
Zirkle, Geo. P., Dossitt.

TEXAS.

Lain, Geo. D., Sanger.
Thomas, J. B., Abilene.
Ousley, J. W., Dennison.
Irby, Alf, Weatherford.
Mahan, L. L., Hempstead.
Robinson, J. D., Brookshire.
Baines, L. W., Brookshire.
Heartsill, Chas. E., Marshall.
Traweek, A. C., Matador.
Ramey, Robt. Lee, El Paso.
Allen, Geo. W., Harletan.
Graves, M. L., San Antonio.
Wilson, R. S., Gainesville.
Gilbert, D. W., Sowers.
Hall, E. P., Ft. Worth.
Cooper, C. T., San Angelo.
Trevino, Sebastian, San Antonio.

VERMONT.

Mackay, A. J., Peacham.

VIRGINIA.

Guthrie, J. A., Portsmouth.

WASHINGTON.

Newcomb, J. S., Everett.
McKinnon, A. B., Fairhaven.
James, Chas., Tekoa.
Nadeau, Fonda, Seattle.
Clark, H. J., Seattle.
Calhoun, Grant, Renton.

WEST VIRGINIA.

McCaskey, A. E., Pine Grove.
Hennen, L. S., Rosbys Rock.
Guthrie, L. V., Huntington.
Smith, J. S., Wheeling.
Malcolm, Melvin P., Lewiston.
Bee, A., Cairo.
Aultze, O. L., Charleston.
Mitchell, A. J., Benning Springs.
Corbin, M. L., Ellenboro.
Post, S. H., Glen Falls.
Sloan, H. E., Clarksburg.
Rexroad, Chas. W., Harrisville.
Lemley, W. H., Littleton.
Coleman, J. E., Kay Moor.
Reger, J. F., Littleton.

WISCONSIN.

Cutler, John C., Verona.
Loops, W. A., Darien.
Foster, F. L., Fond du Lac.
Gaillardet, L. P. L., Hurley.
Macdonald, W. H., Lake Geneva.
Freeman, D. R., Colby.
Andre, F. E., Kenosha.

State Boards of Registration.

COMING EXAMINATIONS.

Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.

Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.

Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.

State Medical Board of Arkansas, Little Rock, Jan. 12, 1904. Secretary, J. P. Runyan, Little Rock.

Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.

Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

New York State Board of Regents, at New York, Albany, Syracuse and Buffalo, Jan. 26-29. Secretary, James Russell Parsons, State Capitol, Albany.

Texas Report.—Dr. M. M. Smith, Austin, secretary of the Board of Medical Examiners for the State of Texas, reports the written examination held at Ft. Worth, Oct. 13 to 15, 1903, as follows: Subjects, 13; questions, 125; percentage required, 75; candidates, 34; passed, 24; failed, 10. Undergraduates numbered 8 of those who passed, or one-third, and 5 of those who failed, or one-half. The graduates are listed below:

PASSED.

College.	Year Grad.	Per Cent.
Chattanooga Medical College	1903	75
Medical Department Tulane University	1902	86
Medical Department Tulane University	1902	84
Jefferson Medical College	1875	75
Med. Dept., University of Tennessee	1898	86
Illinois Medical College	1902	81
Indiana Medical College	1903	77
Med. Dept., University of Texas	1903	83
Hospital College of Medicine (Louisville)	1903	87
Medical Department, University of Kentucky	1903	79
Dallas Medical College	1903	77
Memphis Hospital Medical College	1903	84
Boston University	1903	88
Barnes Medical College	1898	75
Southern Medical College	1894	75
Hospital College of Medicine (Louisville)	1885	83

FAILED.

University of Louisville (Kentucky)	1878	70
Chattanooga Medical College	1901	69
Medical College of Ohio	1901	72
Illinois Medical College	1903	71
Tennessee Medical College	1899	71

The questions asked were as follows:

GYNECOLOGY.

1. Give the blood and nerve supply of the uterus, ovaries and vagina. 2. What are the means used in examination of the pelvic organs of the female? 3. Describe the preparation necessary for an aseptic gynecologic operation in private practice. 4. Give the etiology, pathology, diagnosis and treatment of vulvitis pruriginosa, or pruritis of the vulva. 5. Give the pathology, symptoms, prognosis, complications and treatment of specific vaginitis. 6. (*a*) Give the subjective and objective symptoms of imperforate hymen. (*b*) Describe the operation for its relief. (*c*) The dangers attending or following operation and after-treatment. 7. (*a*) Give the ascribed causes of calculus in the female bladder. (*b*) The most common varieties. (*c*) The different methods of treatment of the same. 8. What are uterine fungosities; symptoms and technic of treatment? 9. What are the most common benign growths found in the cavity of the uterus; causes, symptoms and treatment? 10. (*a*) Give the causes of retroversion and retroflexion of the uterus. (*b*) Give the differential diagnosis between the two. (*c*) The treatment of each.

CHEMISTRY.

1. How would you test for albumin in the urine by heat. State possible errors. 2. What is Heller's test for albumin in urine? 3. What is Trommer's test for sugar in urine, and how made? 4. Give Marsh's test for arsenic. 5. Describe an electric battery, and explain the operations of the chemicals used. 6. Give the chemistry of respiration, showing what is inhaled, what is exhaled and how the gases enter and leave the blood. 7. How is oxygen administered to a patient in bed? 8. What are the chemical antidotes to be used in carbolic acid poisoning? 9. What chemical antidotes should be used in corrosive sublimate poisoning? 10. What chemical antidote should be used in arsenical poisoning, and how would you prepare it?

1. Define blood pressure and the different agencies by which it is maintained. 2. Name the two chief divisions of the nervous system, and explain the difference in function between an afferent and an efferent nerve. 3. Explain the function of bile and the glycogenic function of the liver. 4. Explain the mechanism of respiration and the changes which take place in the blood and the air breathed during the same. 5. Name the important constituents of gastric juice and the final product of gastric digestion. 6. What route does fat take to reach the blood stream? 7. What is the ordinary temperature of the body in health, and how is it maintained? 8. Give the origin and function of the different fibers of the trifacial nerve. 9. Name the respiratory center and give the function of the tenth cranial nerve. 10. Describe the temporary and permanent teeth and the usual age for the eruption of each.

PATHOLOGY.

1. What diseases are attended with ulceration of the intestine? 2. What diseases are attended with cardiac hypertrophy? 3. What general pathological lesion characterizes chronic alcoholism? 4. What degenerative changes occur in the walls of an artery? 5. Give pathology of malarial cachexia. 6. Give pathology of scarlet fever. 7. What diseases are characterized by the formation of a membrane in the throat? 8. Give pathology of locomotor ataxia. 9. What changes are produced in the cerebral tissues by a thrombus? 10. Give pathology of acute pleurisy.

HISTOLOGY.

1. Name different varieties of epithelium. 2. Describe the periosteum. 3. Where is non-striped muscular tissue found? 4. Name and describe the coats of an artery. 5. Describe the wall of a capillary blood vessel. 6. Describe a lymph gland. 7. Give the structure of the pia mater of the brain. 8. Give the structure of a hepatic lobule. 9. Describe an air cell. 10. Give structure of a malpighian corpuscle.

MEDICAL JURISPRUDENCE.

1. Of what does medical jurisprudence treat? 2. What do you understand by the term "medical expert"? 3. State the difference between criminal and civil malpractice. 4. Give in detail the duties of the practitioner who is called to inspect a dead body. 5. What precautions are absolutely necessary to make a physician's testimony of value, when vomited matters, medicines, articles of clothing, blood stains, or any part of the human body is committed to his care for inspection or analysis? 6. Name some of the violent causes of death. 7. Give in detail the conditions which would warrant the induction of abortion by the practitioner. 8. At what stage of intrauterine life does the fetus become viable? 9. What are the evidences of a live birth subsequent to respiration? 10. Define the word "insanity."

PRACTICE OF MEDICINE.

1. Mention briefly the diagnosis and treatment of yellow fever, and the measures to prevent its spread. 2. Give the symptoms and treatment of diphtheria. 3. Give the varieties of malarial fever and their treatment. 4. Give the treatment of typhoid fever, and state briefly the measures to prevent infection. 5. Give in detail the early diagnosis of tuberculosis of the lungs, and briefly the treatment. 6. State briefly the care and treatment of scarlet fever until dismissed. 7. Give the diagnosis and treatment of lobar pneumonia. 8. Give the diagnosis and treatment of Bright's disease. 9. Give briefly the management and treatment of smallpox. 10. Give the medical treatment of appendicitis.

OBSTETRICS.

1. (*a*) Give the anatomy of the ovaries, (*b*) the uterus, (*c*) the vagina, and (*d*) the anatomic relations of each. 2. Describe the phenomena of ovulation and menstruation. 3. Describe the development of the fetus in the different months of pregnancy. 4. Give the causes and prevention of abortion, and treatment of inevitable abortion. 5. State some of the more important physiologic changes in the genitalia during a normal pregnancy. 6. State some of the more important changes in the maternal organism during pregnancy. 7. (*a*) Is the pregnant woman immune from any disease? (*b*) Does pregnancy modify or increase the severity of acute infectious diseases? (*c*) What are the chief dangers? (*d*) State in full what is the duty of the physician in regard to pregnant women during epidemics. 8. Puerperal infection: Give its etiology, pathology, diagnosis, prevention and treatment. 9. (*a*) What is the difference between the insanity in the pregnant woman and the puerperal state and that at any other period of the woman's existence? (*b*) What are the predisposing causes of insanity in the pregnant and puerperal state? 10. What are the symptoms of the so-called puerperal insanity? Give an outline of its treatment.

MATERIA MEDICA AND THERAPEUTICS.

1. What is (*a*) Fowler's solution, (*b*) Donovan's solution, (*c*) brown mixture, (*d*) Monsell's solution? 2. Name the principal local systemic emetics, and give their doses. 3. Physiologic action and therapeutics of pilocarpin. 4. What is (*a*) *Mentha peperita* and (*b*) *Mentha viridis*, with their preparations and doses. 5. What are (*a*) escharotics, (*b*) antipyretics, (*c*) anthelmintics and (*d*) emollients? Name principal drugs belonging to each group. 6. What is (*a*) an alkaloid, (*b*) a decoction, (*c*) a tincture, and (*d*) a fluid extract? 7. What is the physiologic action of amyl nitrite, and for what is it used? 8. For what is arsenic used? Give symptoms and treatment of a case of arsenic poisoning. 9. Name the various groups of cathartics. Give the names of members of each group with their different actions. 10. What is the source of digitalis? Name its preparations and their doses.

SURGERY.

1. Give the rules to be observed in administering a general anesthetic. 2. In case of threatened death from general anesthesia, what measures should be instituted? 3. Describe an amputation of the middle third of the thigh, and the antiseptic precautions before operation. 4. Under what circumstances should you operate in a case of gangrene? 5. Under what circumstances should you operate in a case of appendicitis? 6. Give the different varieties of stricture of urethra and methods of treatment. 7. Classify the different dislocations of hip joint, and treatment of each. 8. Give different methods of arresting arterial hemorrhage. 9. Give different methods of treating hemorrhoids. 10. Give diagnosis and treatment of fistula in ano.

EYE, EAR AND THROAT.

1. Give diagnosis and treatment of iritis. 2. Give diagnosis and treatment of acute glaucoma. 3. Give diagnosis and prognosis in recurrent fibroma of nose. 4. Give etiology and treatment of mycosis of external ear. 5. Give diagnosis and treatment of mastoid disease or suppurative otitis media.

HYGIENE.

1. At what temperature would you keep a sick room, and how ventilate it for a patient with pneumonia? 2. Give details of fumigating a room, recently occupied by a patient with scarlet fever, with sulphur and with formalin. 3. In hospitals, prisons, etc., what should be the minimum number of cubic feet of air space allowed for each occupant? 4. How soon should a child be allowed to return to school after having had scarlet fever? 5. What is the best general method of purifying drinking water? 6. Where is the contagion of typhoid fever found; how carried, and how is the spreading of the disease prevented? 7. At what temperature is it necessary to heat milk to sterilize and pasteurize it? 8. Below what degree of temperature is it necessary to keep milk to prevent its souring or "turning"? 9. What per cent. of the oxygen inhaled is consumed during an ordinary inspiration? 10. What per cent. of carbonic acid gas is there in exhaled air during ordinary respiration?

ANATOMY.

1. Describe the upper third of the femur. 2. Describe the ankle joint, giving also the articulation of bones entering into its formation. 3. What anatomic structures would be cut in an amputation of the upper third of the leg? 4. Describe the fourth ventricle. 5. Give the origin, course and distribution of the inferior maxillary nerve. 6. What is Scarpa's triangle? Give its boundaries and relation of the vessels and nerve. 7. Give the origin, insertion, nerve supply and action of the following muscles: Pronator radii teres, biceps, and levator ani; describe each separately. 8. Give the origin, course and branches of the external carotid artery. 9. Describe the kidney, giving its relation and also the relation of the structures entering and leaving it. 10. Give a brief anatomy of the entire alimentary tract.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, for the week ending Jan. 2, 1904:

Williams, A. W., asst.-surgeon, leave of absence extended for twenty-three days.

Truby, W. F., asst.-surgeon, granted leave of absence for one month.

McMillan, Clemens W., contract surgeon, relieved from further duty in the Division of the Philippines, and at the expiration of his two months' leave of absence, to proceed to Fort Myer, Va., for duty.

Stone, Frank P., contract dental surgeon, relieved from further duty in the Division of the Philippines, and at the expiration of his month's sick leave of absence, will report for duty at the Presidio of San Francisco.

Hammond, William G., contract dental surgeon, when relieved from duty at the Presidio of San Francisco, will proceed to Manila for duty in the Division of the Philippines.

Watkins, Victor E., contract surgeon, now at San Francisco, is ordered to duty in the Department of California, and will not go to the Philippines.

Gibson, Edward T., contract surgeon, recently arrived at Fort Ethan Allen, Vt., with the 15th Cavalry from the Philippine Islands, has been granted leave of absence for one month.

Kemp, James F., contract surgeon, recently returned to Washington, D. C., from Philippine service, has been granted leave of absence for one month.

Fisher, William C., contract dental surgeon, is now in Washington, D. C., on leave of absence from Fort Wayne, Mich.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Jan. 2, 1904:

Marcour, R. O., asst.-surgeon, detached from the *Franklin* and ordered to the *Dixie*, for duty with the Panama Marine Brigade.

Brister, J. M., asst.-surgeon, detached from the *Isla de Cuba* and ordered home.

Guthrie, P. A. surgeon, ordered to the *Franklin*.

Freeman, G. F., P. A. surgeon, ordered to the naval station, Olongapo, P. I.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 2, 1904:

SMALLPOX—UNITED STATES.

Arkansas: Fort Smith, Dec. 12-19, 1 case.
California: San Francisco, Dec. 13-20, 3 cases.
Colorado: Denver, Nov. 14-28, 3 cases.
Illinois: Chicago, Dec. 19-26, 4 cases.
Indiana: Evansville, Dec. 19-26, 1 case.
Louisiana: New Orleans, Dec. 19-26, 1 case.
Maine: Dec. 19, Brewer, 1 case; Old Town, 9 cases; Orono, 1 case.
Massachusetts: Dec. 19-26, Brockton, 1 case; Fall River, 1 case; Haverhill, 1 case.
Michigan: Dec. 19-26, Flint, 1 case; Port Huron, 2 cases.
Nebraska: Omaha, Dec. 19-26, 1 case.
New Hampshire: Manchester, Dec. 19-26, 2 cases.
New York: New York, Dec. 19-26, 1 case.
Ohio: Cincinnati, Dec. 18-25, 8 cases; Dayton, Dec. 19-26, 4 cases; Youngstown, Dec. 12-19, 12 cases.
Pennsylvania: Altoona, Dec. 12-19, 1 death; Dec. 19-26, Erie, 1 case; Philadelphia, 66 cases, 14 deaths; Pittsburg, Dec. 16-23, 18 cases, 6 deaths.
South Carolina: Charleston, Dec. 19-26, 1 case, imported.
Tennessee: Memphis, Dec. 19-26, 17 cases.
Wisconsin: Milwaukee, Dec. 19-26, 10 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Nov. 28-Dec. 5, Prague, 20 cases; Trieste, 1 case.
China: Shanghai, Nov. 14-21, 1 death.
Colombia: Barranquilla, Dec. 5-13, 3 deaths.
France: Paris, Dec. 4-12, 17 cases.
Great Britain: Dec. 5-12, Birmingham, 2 cases, 1 death; London, 2 cases; Manchester, 2 cases; Newcastle-on-Tyne, 1 case; Nottingham, 1 case; Glasgow, Dec. 11-18, 28 cases, 1 death.
India: Bombay, Nov. 24-Dec. 1, 1 death.
Netherlands: Rotterdam, Dec. 5-12, 1 case.
Russia: Moscow, Nov. 21-Dec. 5, 5 cases, 3 deaths; Odessa, Nov. 28-Dec. 5, 6 cases; St. Petersburg, Nov. 16-Dec. 5, 81 cases, 2 deaths.
Turkey: Beirut, Nov. 28-Dec. 5, present; Smyrna, Nov. 22-29, 7 deaths.
Uruguay: Montevideo, Sept. 5-Oct. 31, 12 cases.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Dec. 26, 1 case.

YELLOW FEVER—FOREIGN.

Colombia: Cartagena, Nov. 23-30, 1 death.
Mexico: Dec. 6-12, Ciudad Victoria, 3 cases, 2 deaths; Merida, 2 cases, 1 death; Vera Cruz, 9 cases, 2 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Oct. 24-Nov. 14, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Australia: Brisbane, Sept. 1-30, 1 case, 1 death.
China: Hongkong, Nov. 7-14, 1 death.
Egypt: Nov. 21-28, Alexandria, 1 case, 1 death; Minieh, 3 cases, 1 death.
India: Bombay, Nov. 24-Dec. 1, 51 deaths; Calcutta, Nov. 14-28, 43 deaths; Karachi, Nov. 22-29, 8 cases, 7 deaths.
Mauritius: Nov. 12-Dec. 3, 208 cases, 114 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Oct. 24-Nov. 4, 19 cases, 18 deaths. Provinces, Oct. 24-Nov. 14, 551 cases, 418 deaths.

CHOLERA—FOREIGN.

India: Madras, Nov. 14-20, 3 deaths.
Japan: Nagasaki, Nov. 21-30, 1 death.
Straits Settlements: Singapore, Nov. 7-14, 5 deaths.

Medical Organization.

Iowa.

LYONS COUNTY MEDICAL SOCIETY.—The physicians of the county met at Rock Rapids, December 29, and organized a society on the standard plan, with 19 charter members, and the following officers: President, Dr. Z. T. Holtsclaw, Larchwood; vice-president, Dr. W. W. Bartine, Rock Rapids; secretary and treasurer, Dr. W. T. Schwabland, Lester, and censors, Drs. John E. North, Rock Rapids, John F. Brott, Doon, and Alexander Macnab, Rock Rapids.

Maryland.

CARROLL COUNTY MEDICAL SOCIETY.—This society was organized at Westminster, December 8, with the following officers: President, Dr. J. Howell Billingslea, Westminster; secretary-treasurer, Dr. Charles R. Foutz, Westminster, and vice-presidents (one from each district) Dr. Clotworthy Birnie, Taneytown; Luther Kemp, Uniontown; John J. Stewart, Silas M. Gorsuch, Finksburg; Daniel B. Sprecher, Sykesville; James H. Preston, Manchester; Joseph T. Hering, Westminster; Richard C. Wells, Hampstead; Edwin D. Cronk, Westminster, Charles H. Diller, Double-pipe Creek; G. H. Winterson, W. Durbin Brown, Union Bridge, and William E. Gaver, Mountairey. Drs. J. McPherson Scott, Hagerstown, and G. Milton Linthicum, Baltimore, representing the Medical and Chirurgical Faculty of Maryland, were present, and made addresses on the needs, purposes and benefits of medical organization.

New Jersey.

CAMDEN COUNTY MEDICAL SOCIETY.—At a meeting held in Camden, December 8, the District Medical Society reorganized under the standard plan, as the Camden County Medical Society.

North Carolina.

SIXTH DISTRICT.—Dr. Hubert A. Royster, Raleigh, councilor for this district, announces under date of December 26 that he has effected organization in all counties in his district with the exception of Warren County, where his efforts have as yet been unsuccessful.

VANCE COUNTY MEDICAL SOCIETY.—This society has been organized by Dr. Hubert A. Royster, Raleigh, councilor for the Sixth District, with the following officers: President, Dr. Robert J. Gill, Henderson; vice-president, Dr. Fletcher R. Harris, Henderson; secretary and treasurer, Dr. George A. Coggeshall, Henderson, and censors, Drs. John H. Tucker, Henderson, C. G. Ferabee, Kittrell, and William McAllister. Middleburg.

FRANKLIN COUNTY MEDICAL SOCIETY.—Dr. Hubert A. Royster, Raleigh, councilor for the Sixth District, announces the organization of this society with the following officers: Dr. James E. Malone, Louisburg, president; Dr. J. J. Mann, Stallings, vice-president; Dr. Samuel P. Burt, Louisburg, secretary and treasurer, and Drs. Ivy G. Riddick, Youngsville, Richard B. Henderson, Franklinton, and John R. Wheless, Centerville, censors.

Ohio.

NINTH DISTRICT MEDICAL SOCIETY.—This district society, the first to be organized in the state, met at Jackson, December 3, and with the aid of Dr. John E. Sylvester, Wellston, councilor for the district, perfected its organization and elected the following officers: Dr. Orrin C. Andre, Waverly, president; Dr. Joseph S. Rardin, Portsmouth, vice-president, and Dr. Lester Keller, Ironton, secretary and treasurer. About 60 physicians were present, including Dr. Brooks F. Beebe, chairman of the council, and Drs. Charles L. Bonifield and Horace J. Whitacre, Cincinnati.

South Dakota.

SIXTH DISTRICT MEDICAL SOCIETY.—The secretary notifies us that the report of the election of officers of this society, which appeared in THE JOURNAL, December 26, should be amended so as to read that Dr. Rodell E. Warne, Mitchell, was elected delegate to the state society, and Dr. Roscoe H. Goodrich, Chamberlain, alternate.

Texas.

EL PASO COUNTY MEDICAL SOCIETY.—This society was reorganized at El Paso, December 12, in compliance with the rules and regulations of the American Medical Association, with the following officers: President, Dr. Junius A. Rawlings; vice-president, Dr. M. P. Schuster; secretary, Dr. Gottlieb Wehrle; treasurer, Dr. Edward H. Irvin; delegate to Texas State Medical Association, Dr. Stephen T. Turner, and censors, Drs. William H. Anderson, Marcus O. Wright and Herbert E. Stevenson, all of El Paso.

Wisconsin.

DANE COUNTY MEDICAL SOCIETY.—This society, which was formed September 17, perfected its organization by adopting the standard constitution and by-laws at its meeting in Madison, December 15, at which the following officers were elected: President, Dr. Cornelius A. Harper, Madison; vice-president, Dr. William F. Pinkerton, Mazomanie; secretary and treasurer, Dr. Reginald H. Jackson, Madison, and Dr. Niels C. Evans, Mount Horeb, delegate to state society.

Society Proceedings.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Sixteenth Annual Session, held in Atlanta, Ga., Dec. 15-17, 1903,

(*Continued from page 53.*)

Neoplasms, Wherever Situated, Should, if Possible, Be Removed, Whatever Their Apparent Nature.

DR. MAURICE H. RICHARDSON, Boston, gave reasons for the rule, stated in the title, pertaining chiefly to neoplasms of the breast and of the female pelvis, but applying with certain exceptions to all parts of the body. These reasons, all of which were illustrated by specific cases of his own, were as follows:

1. The uncertainty of the diagnosis, even by those most experienced and skilful, makes palliative treatment hazardous, especially in doubtful cases. Cases were referred to; as of breast tumors apparently benign which had proved malignant, or in which minute foci of malignancy were discovered, or which after many years developed a fatal malignancy, etc.

2. Benign tumors may become malignant.

3. The wisdom of exploration in certain apparently hopeless tumors is illustrated by cases in which a benign and easily remediable condition was found, and in which impending death was averted by a safe operation. Thus supposedly malignant tumors proved to be curable tuberculosis foci; epigastric tumors, apparently cancerous, to be pancreatic cysts, etc.

4. Certain organs have a malignancy-inviting nature, especially the breasts and the ovaries.

5. The benign often masks the malignant, especially in pelvic tumors. For example, the obscuration of a uterine sarcoma by an overlying fibroid.

The rule of universal extirpation has numerous exceptions. It should not apply to superficial tumors, clearly benign, which can not be removed without great disfigurement unless they show a tendency to ulceration and malignancy; or to other benign tumors, the removal of which would cause needless suffering, disability, disfigurement, or danger; or to tumors of all kinds in which the dangers and sufferings of removal outweigh the dangers and sufferings of the tumors themselves.

DISCUSSION.

DR. HENRY T. BYFORD, Chicago, said he belonged to the Chicago Academy of Medicine, whose motto is: "When you see a head, hit it." He thought this would fittingly apply to the removal of tumors as soon as they were seen. He cited a tumor the size of a hickory nut, situated between the bladder and uterus, which the attending physician said did not amount to much, arguing against operation. The woman subsequently became pregnant, miscarried at the fifth month, the tumor having attained the size of an egg. No matter whether a tumor is going to become malignant or not, it is a foreign body and should be removed as soon as possible.

DRS. W. P. NICOLSON, Atlanta, and W. B. COLEY, New York, narrated cases, the latter speaking of an eminent surgeon, who watched a tumor for a year, telling the patient not to have anything done until he thought she needed it. When the tumor was finally pronounced cancer and removed, recurrence soon caused death. Dr. Coley thought these growths should be removed without waiting to determine whether they were malignant or not.

DR. W. P. CARR thought that a routine practice of examining microscopically all small benign tumors removed would show many of them to be malignant.

DR. J. M. BALDY, Philadelphia, supported the essayist in saying that these neoplasms ought to be removed, no matter where they occurred. In the past year he had reoperated twice on cases of cancer that had been subjected to *x*-ray treatment, and in one he had operated a third time for the return of the disease after *x*-ray treatment, although the physician who had used the *x*-ray had said the patients were doing satisfactorily.

DR. J. SHELTON HORSLEY mentioned a case of cancer of the breast in which there was local recurrence after operation, and the patient was treated by the *x*-ray without benefit.

Intestinal Cancer.

DR. J. G. SHERRILL, Louisville, Ky., in a paper on this subject, stated that cancer of the intestine, while rare, was more frequent than physicians were led to believe; that sarcoma was much less frequent than carcinoma, and selected especially the small intestine, while carcinoma most often attacked the large bowel. The appendix is the seat of both carcinoma and sarcoma, although occurring infrequently. The literature shows that men suffer from both forms oftener than do women. Adenocarcinoma is the type most frequently

seen, while the round-celled sarcoma or the lymphosarcoma occurs oftenest. The author reported two cases. He said that the treatment was to be largely determined by the extent of the involvement. Resection of the intestine and extirpation of the growth offer the only hope of a permanent cure, and this chance should be taken as early as possible.

Amputation of the Hip-Joint for Sarcoma, with a Report of Seven Cases Without Mortality.

DR. WM. B. COLEY, New York, in a paper on this subject, said that the tumor originated in the bone or periosteum of the femur in 5 cases, and in the soft parts in 2. The age of the patients ranged between 6 and 56 years. In 6 cases Wyeth's pins were used, but the growth extended above Poupart's ligament and pins could not be used, so the external iliac artery was first tied. All of the patients made a good recovery from the operation, but only one patient survived operation long enough to be called a cure. This was a sarcoma of the thigh in which the mixed toxins of erysipelas and *Bacillus prodigiosus* were used for two months before amputation. In one recent case the patient was still alive without recurrence; in all the other cases death occurred from local or general recurrence in from four months to two years after amputation. Of 4 other cases of sarcoma of the femur and thigh, treated by high amputation, just below the trochanter, 2 patients died at the end of four months; 1 died at the end of two and a quarter years, and 1 had recurrence in the gluteal region, which disappeared under the mixed toxin treatment, and the patient is alive at present without recurrence, six years afterward.

The extraordinary malignancy of sarcoma of the femur was shown by the very small number of patients known to have survived for more than three years after amputation. He advised systematic use of the erysipelas toxin after primary amputation as a prophylactic against recurrence. He would not advise such treatment prior to amputation in sarcoma of the femur, on account of the great liability to early metastases.

The method advocated by Mikulicz, resection of the femur, Coley did not think should be adopted as a substitute for amputation, as there were no cases treated by this method that had been observed for longer than a year, hence nothing could be said as to permanent cure.

The *x*-ray, he believed, should never be used unless the patient absolutely refused amputation.

Surgery of Urinary Tuberculosis in Women.

DR. GUY L. HUNNER, Baltimore, reported 35 cases occurring in the services of Dr. Howard A. Kelly and his associates in Baltimore. These patients were all women with an average age at the onset of symptoms of 28 years. The disease was unilateral in 31 of the cases, and it was probably primary in the kidney, as regards the urinary system, in 30 or more of the cases; 31 cases had bladder symptoms at some time in the course of the disease, although only 18 cases had bladder lesions at the time of operation; 11 of these 18 cases still had some bladder symptoms, and 5 were known to have bladder lesions, although 9 of the 11 had had systematic bladder treatment. Tuberculosis of the bladder does not heal with the ordinary methods of treatment, and if the disease persists a year and does not occupy more than half of the bladder, it should be excised. Of 22 ureters examined microscopically, 17 showed tuberculosis, while 5 were chronically inflamed. If a tuberculous ureter remained either in part or *in toto*, the wound usually remained open at least two years, while the removal of the ureter with the kidney resulted in rapid closure of the wounds. Five cases died, three after six and eleven weeks, and two years, respectively, from involvement of the other kidney, and two, in fifteen and six days, because of the operation. Sixty-six per cent. of the patients were enjoying fairly good or excellent health.

Spurious Dysmenorrhea.

DR. HENRY T. BYFORD, Chicago, read a paper with this title in which he made a plea for more rational treatment. The absurdity of the nasal cure was emphasized and the cures referred to as spurious. The trend of the paper was to condemn writers for bringing the symptom into the foreground when it should be kept in the background, and for wasting their own time and that of their readers in ridiculous speculations.

Memorial Address on Dr. W. E. B. Davis.

DR. RICHARD DOUGLAS, Nashville, Tenn., spoke eloquently of the work that had been accomplished by Dr. Davis, and pointed out in a masterly manner the distinguishing characteristics of the deceased.

Diagnosis and Treatment of Congenital Misplacement of the Hip in Infancy.

DR. ALBERT H. FREIBERG, Cincinnati, had been able to ascertain that in several cases children with congenital misplacement of the hip had been late in walking, though they were able to stand at the usual age for walking. In some few instances mothers observed these things and possibly also that the apparent breadth of pelvis and perineum was unusually great. It was, therefore, urged that in the presence of any of these signs which had been referred to attention be paid to the possibility of congenital luxation, and that in the event of any doubt the *x*-ray be resorted to as a final means of precision. Experience has abundantly shown the feasibility of operative procedure after the age of one year, and that the results amply justify the great additional care which was necessary to prevent the dressings from becoming soiled in so young a patient.

The Progress of Ureteral Surgery.

DR. J. WESLEY BOVÉE, Washington, D. C., president of the association, after referring to the deaths of Drs. W. E. B. Davis, George J. Engelmann, and J. McFadden Gaston, spoke on the surgery of the ureter, giving its history and present status. The *x*-ray is the simplest procedure for diagnosis of calculi, but it is not at all times reliable. For this reason especially other plans of examination should be employed.

In the treatment of ureteral calculi he advocated extraperitoneal ureterolithotomy, as infected urine was usually associated with this condition and easily produced peritonitis. If pus was not present, the establishment of ureterocutaneous fistula would seldom be necessary, though careful drainage of the wound would be advisable. The ureteral wound should be made longitudinally whenever possible, and sutured after lithotomy. If there was much necrosis of the ureter resection or exsection, with uretero-ureteral anastomosis or ureterocystostomy might be required. Frequently pyonephrosis accompanied calculous ureteritis. Incision and drainage, and probably nephrolithotomy would be needed in addition. For ureteral fistula nothing need be done unless obstruction of the duct below the fistulous opening existed. In such a case the caliber of the canal must be restored. In subcutaneous injury of the ureter, no treatment is advisable unless evidence of extravasation of urine or of ureteral obstruction exists. Abnormal ureteral terminations of congenital origin might be corrected by ureterocystostomy, usually by the vaginal route. In complete ureterectomy or nephro-ureterectomy in women probably the loin and vaginal incisions constitute the best plan.

(To be continued.)

THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, held at Denver, Dec. 28 and 29, 1903.

The Association met at the Brown Palace Hotel, under the Presidency of Dr. Alexander Hugh Ferguson of Chicago.

Carcinoma of the Lung and Pancreatic Cyst.

DR. W. W. GRANT, Denver, reported two cases of carcinoma of the lung, and one of pancreatic cyst. He reviewed the literature, which shows convincingly that the disease is essentially surgical, and that delay in operating is as dangerous and fatal as in appendicitis. The suggestion in the treatment of the sac was to dissect it out if small, but in the case of a large

sac this attempt is manifestly unsafe and dangerous. The extensive adhesions make it exceedingly difficult, and extravasation of pancreatic juice or septic material will probably destroy the patient. Patients have died from this treatment; while to attach the sac to the abdominal peritoneum, if not already adherent, and drain, is safe and undoubtedly the best treatment of a large cyst. Pancreatic juice out of its normal channel produces fat necrosis. Pancreatic disease often simulates intestinal obstruction, and the statement may be safely accepted that if the surgeon opens the abdomen and does not find obstruction or perforation of the stomach, but observes fat necrosis, the pancreas is, in all probability, the source of the trouble.

DISCUSSION.

DR. M. L. HARRIS, Chicago, spoke of the great value of colonic and systematic distention of the intestines. In going over the literature of pancreatic cyst he found that in 95 per cent. of the cases the transverse colon took a distinct circle below the tumor and the stomach above. There is practically no other tumor or cyst in which this relation is found.

DR. GRANT said several writers had considered the differential diagnostic point mentioned by Dr. Harris, but when it was remembered that cases of pancreatic cyst were more frequent in very fat subjects, and that there was very uniform distention of the intestines, the stomach not being so much distended because of the pressure of the tumor, or, if so, it was entirely out of its normal location, it was difficult, if not impossible, to isolate the transverse colon and the stomach. He had never succeeded in getting any benefit from artificial distention in other cases, although he did not try it in this case.

Accidental Perforations of the Uterus.

DR. D. S. FAIRCHILD, Des Moines, Iowa, said that the use of the sound and the curette in gynecologic practice was probably the most frequent cause of this accident in legitimate practice. The facility with which the sound can be used in exploring the interior of the uterus and in replacing a retrodisplaced organ is no doubt responsible for some of these accidents. The curette, however, is often used in an indiscriminate manner and as a routine treatment in a great variety of uterine difficulties that can be better treated by other means with a greater prospect of permanent results.

DISCUSSION.

DR. DONALD MACREA, Council Bluffs, Iowa, mentioned a case in which the upper part of the cervix was perforated by a modified Goodell dilator in the hands of a young practitioner, and a portion of the intestine pulled through the opening and pulled off.

DR. H. G. WETHERILL, Denver, said the great dangers associated with the use of the curette were beginning to be appreciated both by the profession and laity, not only in the hands of the inexperienced, but in the hands of experts. He detailed a case which illustrated the ease with which the uterus could sometimes be perforated. A woman attempted to induce abortion by inserting an umbrella ring into the uterus; this went through the posterior vaginal wall, perforated the liver and the diaphragm, and was found in the right pleural cavity.

Symposium on Gastric Ulcer.

DR. H. D. NILES, Salt Lake City, Utah, presented the following conclusions: 1. Postmortem statistics, clinical experience and recent operating-room observations all tend to confirm the belief that neither the frequency nor the grave importance of gastric ulcer is fully appreciated by the profession generally, and the majority of cases are not recognized as such in life. 2. An earlier and more positive diagnosis means greater alertness in our observation and interpretation of symptoms, and more frequent exploratory operations. 3. In the history of every benign or malignant ulceration situated in a safely accessible region, there is always a time when the pathology can be corrected or favorably modified by appropriate mechanical means. 4. The recognized indications for operative procedures in gastric ulcer have been the symptoms produced by the remote resultant pathology, as hemorrhage, perforation, pyloric obstruction, cancer, etc., but our aim should be to make an earlier diagnosis and by timely and rational treatment prevent these later and more serious manifestations. 5. Taking into stricter account the local etiologic factors will undoubtedly aid us in the prevention, diagnosis and treatment of gastric ulcer. 6. The causative pathology deserves more consideration in the surgical treatment than it has yet received. 7. Perforation always demands the promptest surgical interference. 8. Hemorrhage from gastric ulcer is best treated by gastrojejunostomy. 9. Open or cicatrized ulcers near the pylorus always indicate rest for the parts and a sufficient outlet for the stomach contents. 10. A posterior gastrojejunostomy with sutures gives a minimum risk and the most satisfactory results, and hence is usually the operation of choice. 11. Our future advancement in the treatment must come from an earlier recognition and better understanding of the antecedent coexisting and resultant pathologic processes rather than from any further refinements in operative procedures.

ETIOLOGY, SYMPTOMATOLOGY AND DIAGNOSIS OF GASTRIC ULCER.

DR. FRANK C. DAVIS, Des Moines, Iowa, said that clinically and pathologically gastric ulcer might be classified as acute, acute secondary and chronic. Each classification was expatiated on. Hematemesis is a sign of such unmistakable value that one only needs to exclude a few other sources for the blood to establish a diagnosis by it alone. The symptoms were detailed.

A conservative estimate of perforation places it at about 5 per cent. It occurs most frequently in females.

PERFORATING GASTRIC ULCER.

DR. ARCHIBALD MACLAREN, St. Paul, Minn., said that perforating gastric ulcer was fully as common as extra-uterine gestation, and that when the eyes of physicians were opened to this fact, they would be able to see them, diagnose them early, and save many lives that were now lost. In this country he did not believe that the perforation cases reached the hospitals as often as they did abroad. His experience led him to believe that Dr. Richard Harte was correct when he said that rigidity or tension of the abdominal muscles was the keynote to the early recognition of peritoneal perforation from whatever source. The pain might subside, the temperature might not be elevated, but the rigidity continued even up to the end. He believed that many cases could be correctly diagnosed, as was proved by a few cases which he reported, and by the many cases which were constantly being published in the journals. He detailed three cases.

DISCUSSION ON GASTRIC ULCER.

DR. CHARLES W. OVIATT, Oshkosh, Wis., mentioned the case of a man, 62 years of age, a laborer, who had never complained of any symptoms of gastric ulcer. He had eaten a hearty meal, laid down on the lounge feeling perfectly well shortly after, but within an hour he rolled over on to the floor with agonizing pain. A physician was called, who gave large doses of morphin hypodermically, without any benefit, and the patient died within a few hours. Postmortem examination revealed a perforating ulcer in the posterior wall of the stomach, which seemingly had attempted to heal. There was no blood in the stomach, but the abdominal cavity was filled with stomach contents.

DR. B. B. DAVIS, Omaha, said that stagnation accounted practically for a large proportion of cases, and without it there was no ulcer.

DR. LEONARD FREEMAN, Denver, detailed a case he observed some time ago, in which perforation occurred early in the morning, but rigidity of the muscles of the abdomen did not follow until 2 o'clock in the afternoon. This caused failure to recognize the case, and operation was done too late.

DR. CHARLES H. MAYO, Rochester, Minn., said that after examining 1,100 stomachs by test meals, laboratory testing and physical examination, anemia was a very important factor; next, long-continued neurasthenic symptoms. Welch also found in an examination of 788 cases of ulcer of the stomach that only 28 occurred in the greater curvature, so that the greater proportion of them were found in the pyloric end of the stomach. Of cases of cancer of the

stomach, Dr. Mayo had elicited a history of chronic ulcer covering a period of from one to fifteen years. His statistics showed 88 per cent. of gastric ulcer, and 12 per cent. of duodenal ulcer. The tendency was more and more to class the first two and a half inches of the duodenum as a part of the stomach. In 31 cases of acute perforation of the stomach and duodenum, 11 occurred in the duodenum in this first two and a half inches, and he had operated on 26 cases of ulcer of the duodenum.

DR. M. L. HARRIS, Chicago, said the extensive experimental work of Fütterer showed it was impossible to produce gastric ulcer in an animal until the hemoglobin of the blood had been reduced below a certain point; that all lesions of the mucosa produced in healthy animals readily healed. When the hemoglobin is reduced below a certain point, producing a marked anemia, then these lesions develop into typical ulcers. These observations show the importance of an examination of the blood in these cases. The examination of the feces may show hematin crystals—a means of diagnosis in obscure cases.

Symposium on the Treatment of Hematemesis by Gastro-enterostomy.

DR. F. GREGORY CONNELL, Leadville, Colo., classified the operative treatment of hematemesis into direct and indirect. Under direct he included (1) excision of the ulcer; (2) partial gastrectomy or pyloroplasty; (3) ligation of the principal artery; (4) cauterization or curettage of the ulcer; (5) ligation of the mucous membrane, and (6) ligation of all coats. Under the indirect he mentioned (1) gastro-enterostomy; (2) pyloroplasty, and (3) gastrotomy. The direct methods are not in common use, because of such objectionable features as the difficulty of locating the ulcer, the fact that the lesion is frequently multiple, the presence of firm and complicating adhesions, and the indistinct limitations of the pathologic tissue. The high mortality rate of some and the impracticability and unreliability of others have caused a general turning to the indirect method, as exemplified by gastro-enterostomy. The manner in which a gastro-enterostomy allows an ulcer to heal is well understood and practically settled, but as to this same operation acting as a hemostatic measure, no such substantial reasons as those advanced for the healing can be presented. While rest and drainage undoubtedly favor clotting and the cessation of hemorrhage from small blood vessels, it is difficult to understand how they can arrest hemorrhage from a large artery with a lateral opening.

Gastro-enterostomy is indicated in hematemesis (1) after a thorough search has failed to reveal the source of the hemorrhage; (2) where the source of the bleeding is discovered, but in such condition as to make direct treatment impracticable or impossible.

TWO CASES OF ACUTE HEMATEMESIS IN WHICH GASTRO-ENTEROSTOMY WAS PERFORMED.

DR. LEONARD FREEMAN, Denver, detailed two cases in which he performed posterior gastro-enterostomy, using the Murphy button. In one recovery was uninterrupted, but death followed recurrence about seven months later. In Case 2 the stomach showed no external sign of ulcer, and no internal exploration was attempted. The organ was markedly dilated with gas and fluid. Reaction from the operation was so satisfactory that hopes of recovery were entertained; but in spite of no recurrence of the hemorrhage, death occurred at the end of fifty hours, due apparently to the great loss of blood. Autopsy revealed an ulcer as large as a watermelon seed on the posterior wall, at the junction of the lower with the upper two-thirds of the stomach. A small atheromatous artery, plugged by a thrombus, could be seen in the floor of the ulcer.

DISCUSSION.

DR. H. D. NILES believed that in cases of acute hematemesis any operative procedure would be attended with a high mortality. It was difficult to diagnose gastric ulcer from the external appearance of the stomach with sufficient accuracy to deal directly with it, at least, to determine on an operation. Gastro-enterostomy was not, in his opinion, an infallible remedy for the treatment of gastric hemorrhage. Unless one knew positively the source of the hemorrhage before opening the stomach, he thought it was better to perform the operation before hemorrhage was dangerous.

DR. JAMES E. MOORE said the treatment of gastric hemorrhage by gastro-enterostomy at the present time was more or less empirical. The profession had not arrived at that point when positive statements could be made as to its value. The past history of cases showed that a considerable proportion of them not only recovered from immediate hemorrhage, but permanently without operation.

DR. O. BEVERLY CAMPBELL, St. Joseph, Mo., said, in regard to the closure of the opening made in gastro-enterostomy by the suture method, he had performed sixteen experiments on dogs. In 12 he used the Kocher method of suturing, and in all of them he did an anterior gastro-enterostomy. The opening in each instance was large. The dogs were reoperated on at periods of from three to six months, and at the end of three months in six cases the opening was reduced to such an extent that the index finger could not be passed through it without a little force. In six of the cases there was almost total obliteration of the opening at the end of six months. In four there was a slight opening through which only a small probe could be passed. A vicious circle was established in 40 per cent. of the cases. These experiments showed a tendency, where there was no obstruction at the pylorus, for the opening to close, whether it was made with the Murphy button or by the suture method. A larger opening was obtained if the Connell suture or the Kocher suture was used, and in every case the speaker made a rather large opening. Six dogs, in which a vicious circle was established, began to fail in flesh at the end of about two months, and at the end of the third month they were opened and a vicious circle found. In every instance there was more or less narrowing of the opening.

DR. CHARLES H. MAYO reported a case in which gastro-enterostomy failed to arrest hemorrhage. During the past year he operated on a man, 40 years of age, who gave a history, extending over a few years, of occasional stomach disturbance and vomiting of blood. By the laboratory test a little blood was found in the stomach. At the operation, in examining the stomach, he did not find any external evidence of the ulceration. The stomach was dilated. He did a gastro-enterostomy, but there was more hemorrhage after it than before, and the man died at the end of four days. He was very anemic at the time of operation. At the autopsy the intestines were found filled with blood. The gastro-enterostomy was a posterior one, after the Mikulicz method, and the line of suturing was perfect. There were no large ulcers in the stomach, but there were two or three points of erosion.

DR. D. S. FAIRCHILD said a distinction should be made between chronic gastric ulcers which bled and fissure ulcers which sometimes gave rise to profuse hemorrhage. The chronic ulcers could be treated by gastro-enterostomy, but in fissure ulcers, where the hemorrhage was considerable, gastro-enterostomy was not sufficient, and it became necessary to dissect the ulcer out. A case was narrated in point.

DR. CONNELL had had recently three cases of acute hematemesis under observation. One bled very profusely. Operation was advised, but refused, and it was thought the patient would die. But she recovered. There were no signs of ulcer. The second case was that of a child, four years of age, who had acute hematemesis. Operation was refused, and the child died. The third case he operated on, having in mind Moynihan's advice, that it was unnecessary to search for the bleeding point, as gastro-enterostomy would cause a cessation of the hemorrhage. He operated, but the patient died. From the postmortem examination in this case he felt confident that had he made a careful examination of the stomach with the object of finding the bleeding point, he would have found it, and had the ulcer been dissected out, in all probability the patient would have recovered.

DR. FREEMAN said there were two kinds of cases on which the surgeon had to operate: First, those in which the surgeon could take time and search for the ulcers; and if he found them, he could deal with them accordingly. The other class was illustrated by the two examples cited in the paper.

(To be continued.)

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Scrofula.

In the treatment of scrofula, so states the *Med. Press*, cod-liver oil should be given during the winter months if the stomach can retain it. In the summer, the syrup of the tannate of iodin or the following may be given:

℞. Calcii iodidi ..... ℥iss 6
Aq. calcis ..... ℥ii 60
Aq. menth. pip. ..... ℥iv 120

M. Sig.: One teaspoonful in a small amount of water twice daily after a meal.

Every second day a bath should be taken, the water containing sodium bicarbonate two ounces (60.) and sodium chlorid thirty-two ounces (960.). The body should receive a thorough rubbing daily, after which the following should be applied:

℞. Eau de cologne
Spts. lavendulæ, āā ..... ℥iii 90

M. Sig.: To be rubbed thoroughly over the body.

The diet should be rich in fats and phosphates. Consequently the patient's food should consist mainly of milk, eggs, farinaceous compounds, meat, chicken and dry vegetables. The country and seaside are better locations for these cases.

Neurasthenia.

In the *Med. Press*, M. Albec outlines the following treatment of neurasthenia: Suppress as much as possible the cause of the nervous exhaustion by withdrawing the patient from all business and enjoining strict rest of mind and body. He should be instructed to retire early and rise late. Every third day a bath should be ordered lasting for fifteen minutes, followed by a massage; this may be alternated with static electricity, placing a negative pole in communication with the patient.

As general tonics the following combinations are recommended by the author:

℞. Tinct. nucis vom.
Tinct. conine, āā ..... ℥i 4
Tinct. calumbæ
Tinct. gentianæ, āā ..... ℥iss 6
Essentiæ anisi ..... m. x 65

M. Sig.: Twenty drops in water before each meal.

During the meal, or following it, a combination similar to the following is recommended taken in wine:

℞. Strych. arsenatis ..... gr. 1/60 001
Calcii glycerophos. ..... gr. v 30
Syr. aurantii ..... ℥i 4

M. Sig.: At one dose in a wineglassful of wine after each meal.

Sodium Sulphanilate in Exophthalmic Goiter.

Kirnberger, according to an abstract in the *N. Y. and Phila. Med. Jour.*, recommends the sodium salt of sulphanilic acid in the treatment of exophthalmic goiter. He treats it in this manner on the hypothesis that the disease arises from an excessive production of iodothyrein by the thyroid gland. The preparation may be given in one of the following forms:

℞. Acidi sulphanil. ..... ℥i-℥iss 4-6
Sodii carb. ..... ℥i 4
Aq. destil. ..... ℥ix 270

M. Sig.: From three to five dessertspoonfuls daily; or:

℞. Sodii sulphan. ..... ℥i-℥ii 4-8
Aq. destil. ..... ℥ix 270

M. Sig.: Six dessertspoonfuls daily.

According to the author this preparation produces rest and vigor and causes the patient to increase in flesh, and it very perceptibly diminishes the tachycardia.

Heroin to Relieve Cough.

The following combination containing heroin is recommended by Haas and de Santos in *Buffalo Med. Jour.* for the relief of cough:

℞. Heroin hydrochlor. ..... gr. 1/16 004
Ammon. hypophos. ..... gr. iii 20
Balsami tolutani ..... gr. iv 25
Ext. hyoscyami. ..... gr. i 06
Glycerini q. s. ad ..... ℥i 4

M. Sig.: To be taken at one dose and repeated every two, three or four hours.

They recommend it in the treatment of pertussis, pulmonary tuberculosis, asthma and in acute bronchitis.

Local Anesthesia of the Pharynx and Larynx in Tuberculosis.

According to Pollatschek in *Internat. Med. Mag.*, cnanges in the upper-air passages, especially those in the larynx, are important factors in pulmonary tuberculosis. In his opinion the cause of the cough in tuberculosis can be found in the upper-air passages in fully 70 per cent. of the cases. He has employed, in a great many cases, anesthesin locally for the relief of the conditions in those passages, and with very satisfactory results. He uses the following emulsion injected directly into the larynx or in the form of an inhalation:

℞. Menthol ..... gr. xxiiss 1 50
Pulv. gummi arab.
Ol. amygd. dulcis.
Aquæ destil, āā ..... ℥iiss 10

M. Ft. emulsio; add:

Anesthesini ..... gr. xlv-℥i 3.-4
Spts. vini conc. ..... ℥x 40
Aq. destil. ..... ℥ii 60

M. Sig.: Inject into the larynx.

The anesthetic effect lasts from three to thirty hours, and in some cases longer, and no symptoms of intoxication have been noticed.

The following combination containing anesthesin may be employed as an inhalation:

℞. Anesthesini ..... gr. xlv 3
Spts. rectif.
Aq. destil., āā ..... ℥ii 60

M. Sig.: As an inhalation.

For local application to the pharynx the following is serviceable:

℞. Anesthesini ..... ℥ii 8
Mucil. acaciæ ..... ℥iv 15

M. Sig.: To be painted on the painful areas by means of a swab.

To relieve the pains caused by external wounds on different parts of the body, such as by burns, etc., anesthesin is said to be of value applied in the form of an ointment:

℞. Anesthesini ..... ℥i-℥ii 4-8
Lanolini
Liq. petrolati, āā ..... ℥i 30

M. Ft. unguentum. Sig.: Apply locally; or it may be used as a dusting powder as follows:

℞. Anesthesini ..... ℥i 4
Bismuthi subgal. ..... ℥iss 6
Pulv. amyli ..... ℥ss 15

M. Sig.: Apply locally as a dusting powder.

Dr. E. Fletcher Ingals, after using this preparation a satisfactory length of time, states that the anesthetic effects produced on unbroken membranes are slight, but it has proved to be of benefit as an anesthetic on the broken surfaces, after cauterizations of the nose and tonsils.

Methylene Blue in Insomnia of the Insane.

After studying the effects of methylene blue in several cases, including the various psychoses of the insane, Zaitzer and Taporkov, in *Merck's Archives*, states that this preparation is not only a sedative in maniacal excitement, but is also a good hypnotic in insomnia without maniacal excitement. It is superior to other hypnotics in being free from after-effects. They administered it hypodermically in doses ranging from grain one half (.03) to grains two (.12) or per os in three-grain (.20) doses three times a day, combined with pulverized myristica.

Scabies.

The following formula is recommended by Fournier in the treatment of scabies:

℞.	Potass. carb.	ʒss	15
	Sulphuris sublim.	ʒiss	45
	Mucilaginis tragacanthæ	gr. viii	50
	Glycerini	ʒiiiss	100
	Essentiæ menth. pip.		
	Essentiæ lavendulæ, ää	m. x	65

M. Ft. unguentum. Sig.: Apply locally night and morning.

The following combinations are also of service in the treatment of scabies:

℞.	Sulph. precip.	ʒss	15
	Naphthol resublim	3ss	2
	Lanolini		
	Liq. petrolati, ää	ʒss	15

M. Ft. unguentum. Sig.: Apply locally twice daily; or:

℞.	Menthol	gr. xx	1 30
	Adipis benzoinati	ʒss	15

M. Ft. unguentum. Sig.: Apply locally night and morning.

Hyde recommends that one of the following combinations be substituted for the ordinary sulphur ointment in the treatment of scabies:

℞.	Liq. styracis	3i	4
	Liq. petrolati		
	Ol. oliveæ, ää	ʒss	15
	Balsam. Peruv.	3iiss	10
	Spts. sapon. viridis	3v	20

M. Ft. unguentum. Sig.: Apply locally; or:

℞.	Potass. sulphuret.	3iiss	10
	Saponis alb.	3x	40
	Ol. oliveæ	3ii	8
	Ol. thymi	m. viii	50

M. Ft. unguentum. Sig.: For local application.

Prurigo Gravis.

The following combination is recommended by De Beurmann in *Rev. Fran. de Med.* as of value in the treatment of prurigo Hebræ:

℞.	Pulv. camphoræ		
	Picis liquidæ, ää	3i	4
	Sulphuris	gr. xl	2 65
	Olei gynocardiæ (chaulmoogra)	m. xv	1
	Liq. petrolati	3v	20

M. Ft. unguentum. Sig.: To be applied locally.

Medicolegal.

Physicians Only May Complain of Discriminations.—The Court of Civil Appeals of Texas, in the case of Sweeney vs. Webb, wherein the validity of the local option law was assailed, says that one of the contentions was that the act denied equal protection of the law, and was therefore unconstitutional, because one section forbids the prescribing of intoxicating liquors by any one who does not follow the practice of medicine as his principal and usual calling. But the court says that the only discrimination shown was between physicians who practice medicine occasionally and those who make it their principal calling, and since the parties suing were not physicians, they could not successfully complain of that clause.

Privilege Does Not Cover Prescriptions and Druggists.—The First Appellate Division of the Supreme Court of New York says that, in the personal injury case of Deutschmann vs. Third Avenue Railroad Company, the company called as a witness a druggist, who testified that he knew the party suing, that he had filled prescriptions for her, identified the prescriptions made by a physician who had treated her, and stated that he had filled them for her. The prescriptions were then offered in evidence, and the party objected to them on the ground that they constituted a confidential communication of the physician who gave them, and were therefore inadmissible in evidence; and such objection was also urged to the testimony given by the witness. These objections were overruled, and the evidence given by the witness was received, as were also the prescriptions. In holding that there was no error in this the court says that it is to be borne in mind that at common law the mouth of the physician was not closed as to any matters which were pertinent and competent on the issue, the subject of investigation. And it is always competent for the patient himself to make disclosure of any matter which has been communicated by the physician. The prohibition of the statute relates to the physician alone. It is his mouth that is closed. And the physician's mouth is only closed as to communications necessary to enable him to act in a professional capacity toward the patient. The necessity of having physicians' prescriptions filled by druggists may furnish a reason for the legislature to say that public policy will interpose to prevent them from making disclosures of the information thus obtained, but it is enough now to say that the statute in question has no application to such a situation. Having parted voluntarily with the prescriptions by delivery of them to a third person, the party suing could not exclude the testimony offered from such a source. Therefore, no error was committed in receiving in evidence the testimony of the druggist, and accompanying the same with the prescriptions which the party suing had delivered to him. Undoubtedly the mouth of the physician would be closed, as he could at no time either authorize another to disclose, or disclose himself, any communications made to the party suing, whether oral or written. His certificate filed in a public office pursuant to the requirements of a statute may not be given in evidence, and is within the prohibition of the statute, as it remained at all times his communication of matter which he received in a confidential capacity, and is therefore inadmissible. But that rule was without application here, for the evidence was of a disclosure made by the party suing of the physician's communication to a third party, and that, being her voluntary act, authorized proof of the matter disclosed. Evidence from experts to show that the prescriptions called for specifics for syphilis was also competent for the same reasons. The party suing having refused to waiver her privilege and permit a physician to testify, the court thinks, in view of the fact that the statute is silent on the subject, that the jury were not precluded from considering the entire attitude of the party, and drawing such inference therefrom as was fairly deducible from the situation which had been created.

Validity of Contract Not to Practice in Certain Place.—In the Illinois case of Ryan vs. Hamilton, it appeared that the party sued, a physician, signed a contract agreeing never, either separately or as one of a firm, to practice general medicine in or within eight miles of a certain place, without the consent of the other party, while the latter practiced in said place or within eight miles thereof (unless forced to by some unforeseen circumstances, in which case he agreed to pay the other party a reasonable sum). The Supreme Court of Illinois says that the principles of law applicable to this case are the same as those governing the specific performance of contracts in restraint of trade. That contracts in general restraint of trade are generally held to be illegal is beyond controversy. But the rule admits of well-defined exceptions, among which are such contracts as in this case. Contracts of this class, where the limitation as to territory is reasonable, and there exists a legal consideration for the restraint, are valid and enforceable in equity, and in such cases relief by injunction is customary and proper. In all such cases it is

not the business of a court to inquire whether the consideration is adequate, or of equal value to that which the party loses by the restriction; it is impossible for courts to tell how valuable to the complainant or how injurious to the defendant may be the restraint sought. It is sufficient to uphold such contracts if the court concludes that there is some legal consideration; but the adequacy of the consideration is within the exclusive dominion of the parties where they contract freely and without fraud. In this case the consideration for the contract appeared to be the purchase from a partner of the physician signing the contract certain personal property of the former, which the firm had used in and about their practice, so that the signer of the contract might be enabled to carry out a purpose he had of becoming a specialist and re-entering into business with his former partner. The court holds that it could not be reasonably contended that there was no consideration though the signer received no money. Moreover, the court thinks it sufficient that the injured party showed that the signer of the contract returned and engaged in practice after making an effort to form a partnership with him and an effort to purchase his (the injured party's) business, and, if there was anything other than the ordinary business motives that prompted the signer of the contract, it was the latter's duty to have disclosed it, to be protected by the provision excusing him if forced by some unforeseen circumstances. Nor does the court consider this provision too indefinite to permit of the enforcement of the contract. It says that in interpreting such writings it is the duty of courts to give them a reasonable and sensible construction, and, as far as may be, carry out what was the intention of the parties. The modern trend of the law has been to recognize a person's property right in the good will of a business built up by him, and the tendency is to remove the restrictions formerly placed on its sale. And, according to well-established rules of law in this and other states, the court regards the restrictions imposed by the contract in this case as reasonable.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

December 26.

1 *Tumors of the Ponto-Medullo-Cerebellar Space. Acoustic Neuromata (Central Neurofibromatosis). Joseph Fraenkel and J. Ramsay Hunt.
2 *The Present Status of the Treatment of Lateral Curvature. Jacob Teschner.
3 *Intestinal Fermentation as It Interests the Surgeon. Robert T. Morris.
4 *Submucous Resection of the Nasal Septum. Felix Cohn.

1. **Tumors of the Ponto-Medullo-Cerebellar Space.**—This condition is not a rare one according to Fraenkel and Hunt. The underlying active factor in all the cases is a teratologic one. Five cases are reported; the symptomatology is that of tumor of the posterior fossæ of the skull preceded by symptoms referable to disease of the fifth and eighth nerves. The cases all show the common origin from the cranial nerve trunks. Pathologically they are neurofibromata, pure or in various stages of metamorphosis and transformation. The locality is in all forms similar—the angle formed by the junction of pons, medulla and cerebellum; symptomatically analogous. The authors remark that the certainty of locality, the essentially benign nature of the growths and their loose attachment, make them favorable ones for surgical interference.

2. **Lateral Curvature.**—Teschner criticises the authorities for their neglect of his method of gymnastics in the treatment of lateral curvature, and calls the attention of physicians to the necessity of carefully and understandingly examining cases of faulty posture and gait and the advisability of proper treatment. He explains the difference between his system and ordinary gymnastics, and the proper learning and directing of them.

3. **Intestinal Fermentation.**—The surgical factors in intestinal fermentation are noted by Morris, who includes among them intestinal adhesions, especially about the appendix and cecum. He remarks that we are apt to overlook other adhesions such as those about the sigmoid and gall bladder which are also of importance. Normal involution of the appendix is also a cause of intestinal fermentation in his opinion. Reflex irritation from contraction of the connective tissue and injuring of the terminal filaments of the entrapped nerves is liable to produce such disorders. Still other causes are loose kidneys, and he credits a large group of cases of intestinal fermentation to eyestrain. Those who have suffered from chronic constipation since childhood he thinks are victims to the presence of hypertrophied rectal valves. In conclusion he remarks that he is curious to know what proportion of intestinal fermentations are really medical cases, and not curable by surgical resources.

4. **Submucous Resection of the Nasal Septum.**—The method recommended by Cohn is that of submucous resection, the operation of which is described. He uses a weak cocain solution and adrenalin in most of his cases, and usually places his patient on his back with head slightly raised and chin depressed, the head slightly turned away from the deviated side, the nostrils being held back by retractors. A slightly convex incision is made through the whole length of the mucous membrane as near to the point of greatest convexity as possible, and only through the membrane. The mucous membrane is then held back with a small, sharp hook and the cartilage, after being as much exposed as possible, is nicked and gradually separated from the mucosa of the opposite side. After it has been as fully freed as it can be, care being taken not to dislocate it, an incision is made parallel to the ridge of the nose, in order to prevent external deformity, and a second incision made below and the cartilage finally dissected out posteriorly. The first piece usually embraces the greater portion of the protuberating cartilage. The still projecting pieces must be removed seriatim, working from before backward, if necessary even removing the bony portion with small bone forceps. An occasional reversing of the mucous membrane is the best guide as to the amount to be removed. After the cartilage has been removed the mucous membrane is carefully replaced, and, if required, one or two sutures may be added. The nares are then lightly packed with gauze and the patient kept in bed for a day or two with ice applications over the nose and a change of dressing every twenty-four hours for two or three days. After that no further treatment is usually required except an ointment or spray to prevent the formation of crusts. Of course those cases that can be operated on by simpler measures with the knife, saw, chisel, or drill, for instance, should be excluded. The results of submucous resection are uniformly excellent. After-treatment is unnecessary.

New York Medical Journal.

December 26.

5 *The Etiology of Bronchopneumonia. Lewis A. Conner.
6 *The Point of Election in Tuberculosis. J. O. Cobb.
7 *Accidents and Complications Following Operations on the Nose and Throat. Justus Sinexon.
8 Fat Necrosis and Report of a Case. V. B. Jackson.
9 *Laryngeal Complications in Typhoid Fever. Report of a Case. Tracheotomy. Recovery. Homer Dupuy.
10 *A Device for the Prevention of Premature Baldness. John Gilbert.
11 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.
12 Delayed Secondary Hemorrhage Following Amygdalectomy: Report of Two Cases. Richmond McKinney.

5. **Bronchopneumonia.**—Conner discusses some of the forms of bronchopneumonia, noticing the general predisposing causes, of which he puts age among the first, the season, in which it seems to follow the same rule as lobar pneumonia, and the previous condition of health, which is exceedingly important. Of secondary bronchopneumonia measles is usually the first associated cause, but influenza, diphtheria and scarlet fever as well as bronchitis of children are to be mentioned. As a complication of debilitating disease it is especially seen in old age, though it may occur at other ages. Aspiration pneumonia is common in conditions of stupor and unconsciousness, when sensibility of the larynx is reduced, or swallowing is difficult, and irritating matter passes down the wrong way. The bacteriology is discussed at length. In about 50 per cent. of the cases of primary bronchopneumonia, the pneumococcus is found

either alone or in conjunction with other germs, most commonly streptococci. Next in frequency comes the streptococcus, and after that the pyogenous staphylococci, Friedreich's bacillus, the influenza bacillus, etc. In secondary bronchopneumonia, the bacterial list includes the same forms, together with others, such as those of diphtheria, typhoid and the *Diplococcus meningitidis*, etc. While the pneumococcus is the one perhaps most frequently found, it is much less common than in primary cases, and recent researches have shown the pure culture of diphtheria, influenza and other bacteria in cases following those disorders. In typhoid bronchopneumonia, the typhoid bacillus does not seem to be found in the lungs as a rule, and the disease from this cause is apt to be a secondary or heterologous infection, as infection through the air-passages by the typhoid bacillus is very unlikely. In tuberculous bronchopneumonia the pneumococcus seems to be frequently found. It appears to be the belief of many that the tubercle bacillus is responsible only for the caseation which follows the infection and that the pneumococcus or streptococcus is the active agent. In bronchopneumonia following conditions other than the infectious diseases, the streptococcus and staphylococcus have been found, and the bacillus coli in a small percentage of cases. The significance of this latter seems to be that it indicates only a postmortem or at most an agonal invasion and is not a causal agent. Other micro-organisms than bacteria may occasionally be associated with bronchopneumonia, such as streptothrix. The question whether or not the bronchi in health contain bacteria has not been definitely settled, the weight of evidence seems rather to be against it. It seems probable that such germs are usually absorbed by epithelial cells and destroyed. They may, however, under abnormal conditions find congenial soil in the bronchial tubes.

6. **Tuberculosis.**—Cobb discusses the reasons why the apices of the lungs are most frequently the primary seat of tuberculosis. He concludes that the germs are taken in through the blood current, and that the constant deposit in the apices of the lungs lies in the fact that the pressure from the front by the great veins and lymph vessels in the angles of the neck causes enough suction to create a counter lymph current and an area of lymph stasis in the apices of the lung where a bacillus will become much more quickly arrested.

7. **Nose and Throat Operations.**—Sinexon calls attention to the need of caution in nose and throat operations and enumerates from the literature many cases where serious and even fatal accidents have followed trifling operations on the nose and throat. The possibility of fatal hemorrhage is to be considered in these cases. Even epistaxis has been known to be fatal. In intubation, too, the possibility of the membrane extending further down the trachea than the length of the tube employed, and being pushed down below it is a thing to be thought of. It is imperatively necessary that one should be prepared to perform tracheotomy in all cases where intubation is employed.

9. **The Laryngeal Complications of Typhoid.**—After a detailed discussion of the subject and a report of cases, Dupuy concludes that the 256 collated cases, reported in the last fifty-eight years, which for evident reasons are only approximately correct, afford eloquent proof that the subject of typhoid affections in the larynx calls for general recognition.

Evidence, bacteriological and clinical, strongly supports the view adopted by the majority of observers, that the laryngeal involvement in most instances is a direct typhoid infection.

A high death rate, as shown by statistics, when this complication exists, teaches the salutary lesson of always examining the larynx when the danger signals of hoarseness, dyspnea or dysphagia set in.

The favorable results which follow operative interference offer such a contrast to the high mortality without operation that there can be but unanimity of opinion as to its propriety.

Tracheotomy is the most approved, because in most cases the only possible surgical procedure which can save life.

10. **Baldness.**—The cause of baldness is attributed by Gilbert to tight hatbands. He remarks that women and savages do not suffer from the condition, and suggests the use of small cork fenders around the hatband, avoiding pressure to certain parts or sections, leaving the intervening space free for normal blood supply and free ingress and egress of air from the hat chamber above. This would, of course, require a little larger hat than usually worn, but no larger than is demanded by the ordinary corrugated sweatband.

11. **Typhoid Fever.**—Bass has used castor oil in typhoid fever in a large number of cases and finds that it has a valuable influence on the condition of the bowels, preventing diarrhea and also controlling the temperature by preventing the absorption of poisons from the undigested, decomposing bowel contents. It is better than other purgatives for it goes through the bowels unchanged and disturbs the patient least. The method he thinks best is to begin with a dose of pure castor oil every twelve hours, regardless of the stage of the disease. The dose should be so regulated as to cause one or two actions, varying from one to eight drams, depending on the patient, the stage of the disease and the condition of the bowels. He continues it through the whole disorder.

Boston Medical and Surgical Journal.

December 24.

13 The Responsibility of the Medical Examiner. Herbert Parker.
14 *Diffuse (Combined) Degeneration of the Spinal Cord. E. W. Taylor and G. A. Waterman.
15 *Historical Notes on the Laws Governing Civil Malpractice in the Ancient Times and the Middle Ages. Charles Greene Cumston.
16 The Bitzer Homicides. George P. Twitchell.
17 *Malaria and Mosquitoes of Worcester. A Year's Observations on the Habits of Culex and Anopheles. (Concluded.) William W. McKibben.

14. **Diffuse Combined Degeneration of the Spinal Cord.**—Two cases of this syndrome are reported by Taylor and Waterman, the first showing marked arteriosclerosis in the brain—internal capsule, diffuse quasi-systemic degeneration of the cord involving the dorsal and lateral tracts, most marked in the thoracic region, and nerve roots undegenerated as also the gray matter, no cachexia or anemia. In the second case there was diffuse degeneration in a patient dying with symptoms of pernicious anemia, the lesions sharply limited to the dorsal and lateral columns of the cord, but not anatomically confined to the neuron systems. There were no noteworthy alterations of the nerve cells of the ventral horns and no general changes in the blood vessels, either without or within the cord, and the nerve roots were unaffected. Both cases belong in the general group of diffuse (combined) spinal degenerations; those in the first case being much more diffuse than in the second, which is noteworthy in its relation to the fact that cases associated with anemia have been declared to be more diffuse than others. The authors are inclined to think that the various concomitant conditions associated with this type of nerve degeneration are not etiologically significant, but that there is some unknown cause, which they may call a toxemia. They review the opinions of various authorities on the subject and hold to their previously expressed opinion that no fundamental characteristics of the lesion have been found dependent on different causes, and that for the present diffuse or diffuse (combined) degeneration is as near an exact designation of the anatomic conditions as can be made. This, of course, excludes other cases, such as those of Friedreich's disease or paresis, where true systemic degeneration of the lateral and dorsal tracts may take place. In conclusion they remark that cases which present during life a high degree of spasticity with slight ataxia seem to be more chronic in their course than those where the ataxic symptoms are more pronounced and early.

15. **Malpractice.**—Cumston's paper is an interesting historical review of the recognition of civil medical liability under the law. It shows that it has been sustained by the courts at all former times. He does not take up the question of criminal malpractice.

17. **Malaria.**—McKibben finishes his article on malaria at Worcester, Mass, showing how general it has become, and how directly its origin is traced to infection by mosquitoes and the neglect of local authorities in meeting the case.

Medical News, New York.

December 19.

18 *Peripheral Neuritis. A Clinicotherapeutic Résumé. William B. Pritchard.
19 *Clinical Experiences with the Enlarged Pharyngeal Tonsil. H. Gradle.
20 *The Surgical Treatment of Dysmenorrhea. Wm. E. Parke.

21 *The Dangers of Inflating the Stomach with CO_2 Gas; Its Diagnostic Value. Report of Three Cases with Autopsies. Moses Behrend.
22 *On the Value of Urethral Catheterization and Urine Separation with Hemocryoscopy and Urinocryoscopy in Surgical Diseases of the Kidney. William E. Lower.
23 Some Experiments and Conclusions in Hypnotic Therapeutics. W. H. Wallace.

December 26.

24 *Predispositions to Tuberculosis. John B. Huber.
25 *The Indications for the Ligation of the Internal Jugular Vein in Lateral Sinus Thrombosis. Seymour Oppenheimer.
26 *Chorda Venerea. G. S. Peterkin.
27 *On the Reflex Eruptions of the Skin from Morbid Alterations in the Male Urethra. A. Ravogli.
28 *The Treatment of Some Diseases of the Eye by Warm Medicated Sprays. David T. Marshall.

18. **Neuritis.**—Pritchard reports six cases illustrating as many different types, the first being a neuritis of the seventh nerve. He points out the difference between central and peripheral facial palsy, and describes the treatment. He has much faith in electricity in these cases. Sciatica is next mentioned; here he would advise the use of morphin where it is indicated, as preferable to other drugs that have been recommended to relieve the patient. As regards nerve stretching or surgical interference, he advises extreme conservatism and mentions a case where paralysis followed operative measures. He says do not forget in all cases to examine for diabetes or gouty states or lead poisoning, the blood for malarial and other parasites, the pelvis for tumors and uterine disease, and the bones for hyperplastic inflammatory disorders, the blood vessels for aneurisms or varicosities, all of which may aggravate sciatica. The third form described is intercostal neuritis associated with zoster. He dispenses with the use of local treatment in these cases as a rule, and regards the application of galvanism through a bare metal electrode as often positively harmful. Neuritis of the fifth nerve or tic douloureux is described at considerable length. He calls particular attention to the habit tendency. The nerve function when perverted is particularly prone to habit tendencies. Starting in some local definite cause or in some equally positive constitutional state, he says, a neurosis, motor, sensory, or vasomotor, quickly develops the habit tendency, which results in a continuation of the neurosis after the cause has ceased or has been removed surgically or otherwise. He protests against radical surgical procedures in this form, and says be sure that your patient has a trial of everything else and that the condition can not be made worse before you resort to them. He mentions the castor-oil treatment, which has occasionally been followed by relief, and it should be tried if other more legitimate methods fail. Dana's method with progressive massive doses of strychnia he has found in a few cases to have a marvelously happy result, but if no result is obtained by the fifth day and reaching doses of 1/12 of a grain, it is useless and sometimes dangerous to carry the treatment further. His own plan of treatment is, after having antagonized all local and constitutional predisposing causes, to have recourse to the constant current guided as to quantity by the meter. Mild currents with long seances is a safe general rule, and he puts his patients on full doses of hyoscin hydrobromate, 1/100 to 1/50 of a grain, two or three times daily, and follows this with the anodyne prescription of sodium salicylate, 3 gr., quinin 1 to 2 gr., codein, 1/4 to 1 gr. One such every three, four or five hours. Heroin may be used instead of codein. Lastly, he mentions traumatic neuritis and remarks on its medicolegal bearings. In conclusion he summarizes the following points: 1. The importance of functional rest in all cases of neuritis often to the extent of mechanical enforcement. 2. The value of forced nutrition, especially with fats, constitutionally and locally. 3. His great confidence in electricity and massage, neither of which, however, should be used empirically, and both of which require the utmost nicety of personal adjustment. 4. The maintenance of an equable surface temperature in all forms of sensory neuritis. 5. The recognition of the neurotic habit, tendencies and predispositions, and recognition of the fact that is almost axiomatically true that all cases of neuritis, except perhaps the traumatic and mechanical, are associated with and often dependent on states of altered metabolism and perverted nutrition, to which recognition is logically correlated the necessity of tonic, alterative and nutritional measures.

19. **Adenoids.**—Gradle first remarks on the adenoid face, which is not always significant, as it may occur with other conditions, and may be wanting where the pharyngeal tonsil is enlarged enough to be of clinical importance. Most patients breathe easily enough while standing, but on lying down the difficulty begins. He is inclined to attribute the greater destruction during sleep to the turgescence of the posterior ends of the turbinals—the inferior and also to some extent, the middle. This also explains the characteristic adenoid "nead" voice. Aprosexia, or the lack of ability to give attention, seems to depend on the size of the hypertrophy and not on the obstruction by vascular distension. In all his cases it occurred with large tonsils. He thinks it has not been sufficiently emphasized that most of the mischief from adenoids results from inflammatory attacks of the tonsil when enlarged. The inflammation, often subacute from the start, extends into the nasal passages, to the ears and not rarely to the bronchi. He is not inclined to think that mechanical stoppage of the Eustachian tube occurs as a rule. Eustachian catarrh has usually a favorable prognosis, and he thinks the danger to hearing has perhaps been a little overstated, but the relation of adenoids to eye affections has not received the attention it deserves. In children suffering from phlyctenular keratitis a large majority have hypertrophied pharyngeal tonsils, and he has followed the practice of removing the adenoids in such cases with good results. The effect on the general nutrition is marked, and it almost seems that some adenoids exert a poisonous influence. He has seen anemia improve rapidly after operation. In older children the results are not quite so satisfactory because of the hyperplastic lesions in the upper-air passages often induced by the adenoids. The cause of adenoid growth of the pharyngeal tonsil he found in the repeated attacks of coryza in predisposed subjects, and the history of his cases confirms this belief. The relation of adenoids to scrofula is mentioned as a not yet fully solved problem, as apparently scrofulous children are more liable to these conditions. He thinks the indication is to remove any enlarged pharyngeal tonsil that causes disturbance, and he regards a tonsil as morbidly enlarged whenever it projects above the surrounding mucous membrane. Operation in his hands is usually performed without narcosis, which he thinks would make it a rather more severe procedure. If an anesthetic is to be used nitrous oxid gas is best, but outside of multiple tonsillotomy the adenotome enables the operator to do his work as well and more quickly with a wide-awake child than a narcotized one.

20. **Dysmenorrhea.**—Dilatation and curettage is the method here described by Parke, which is, he thinks, a simple operation, not, however, wholly unattended with danger. It should not be undertaken without physical examination to determine the absence of contraindications, and without the greatest care as to antisepsis and the avoidance of accidents.

21. **Stomach Inflation.**—Three cases of death following stomach dilatation for diagnostic purposes with CO_2 gas are reported by Behrend. In the first case death resulted from hemorrhage at the base of the ulcer; in the second case the patient was prostrated from its use and never rallied, dying the following day. It was one of carcinoma of the esophagus and stomach with cholelithiasis and pericholecystitis in a very debilitated patient. The third case was in a man suffering from carcinoma of the esophagus and the patient was semi-conscious from the administration of the gas until the time of his death. He thinks that these cases show that the use of carbonic acid gas in inflating the stomach is rather a serious operation, infinitely more dangerous where there is a disease of the esophagus and the cardiac end of the stomach. This may be due to pressure exerted within the narrowed limits. If used, the procedure must be employed only with discretion and in selected cases.

22. **Kidney Diseases.**—The title of this article explains it. Lower calls particular attention to the cryoscopic method as an important supplement to other methods of examination and as the best-known way at present of determining the functions of the kidney.

24. **Tuberculosis.**—Huber recognizes the hereditary tendency to tuberculosis manifested chiefly by what he calls a scrofu-

lous temperament with pallid skin and flabby flesh with often a chronic blepharitis; phlyctenulæ are frequent, the nose is large and broad, adenoids and hypertrophied tonsils are common, so that the patients are frequently mouth-breathers; there is generally a sluggish, torpid metabolism. Besides these anatomic defects he notices also the narrow chest and projecting shoulder-blades, the small respiratory muscles as well as the defective development of the aorta, congenital heart lesions, small heart, anemia, chlorosis, slow teething, deficient ossification, and so on. Other defects are functional in character, and this is an important point, as functional rather than anatomical modifications are transmitted. The latter are more dependent on the former. He also recognizes the possible transmission of tuberculosis congenitally, and questions the inhalation theory of its transmission, believing that the alimentary tract plays a much more important part in the spread of the disease. Faulty metabolism plays an enormous part in predisposing the tissues. The decomposing nitrogenous matters in the body afford culture ideal media; impaired circulation, alcohol with its accompanying poverty and ill health are also important factors. He notices also the subtle relation between insanity and tuberculosis, the bad diet such as is customary in the country, intermarriage, the constipation habit, etc. Tuberculosis is prone to follow on other diseases, such as bronchitis, influenza and neglected colds, and there are a number of trades which seem to stand in a direct causative relation to it, also direct injuries from contusions, wounds, etc. Psychic factors are also to be considered, such as excitability, overwork, shock, etc., deranging the functions. He considers that the bacillus itself is not the only thing to be combated, but thinks that its discovery has benefited matters on the whole by leading to the adoption of principles of prophylaxis and sanitation. While there are some immunizing serums which promise much, he remarks that they will never exceed in value such immunizing agents as fresh air, sunlight, cleanliness, well-drained and ventilated houses, good food and good hygienic measures.

25. **Ligation of the Internal Jugular Vein in Lateral Sinus Thrombosis.**—The advisability of ligating the internal jugular in lateral sinus thrombosis is discussed by Oppenheimer, who notices Jansen and Brieger's views, and reports cases where it was indicated and performed. The most difficult cases in which to determine whether to ligate or not are those in which no operation has as yet been performed on the sinus, especially when pyemic symptoms are not well marked or the vein itself does not give indication of septic or thrombotic changes. Where the infection has extended into the jugular vein and resulted in suppurative phlebitis, the vein should be heated as low down to the clavicle as possible, the second ligature placed high up and the entire vein removed between them. He considers that the presence of a high temperature, and rapid remissions, quick alterations and repeated rigors are very important symptoms, and beginning or well-marked neuroretinitis is also an indication for operation. Profuse sweating should be noted, while vomiting, anorexia, and accelerated pulse rate may help to elucidate the case. Where the sinus has been exposed but not operated on, and aspiration shows that the lower portion is beginning to disintegrate, one is certainly justified in immediately ligating the vein. It is indicated even more if septic symptoms of even a minor degree are present, though no emboli have as yet entered the circulation. Another indication for ligating after exposing the sinus is the presence to the eye of the movement of respiration transmitted to the sinus, the dangers of embolism of air under these conditions, and the implied presence of a thrombus entering into the torcular, warranting the immediate ligation of the vein in the neck before the sinus is opened. This must be rare, however, as he has never seen a case in which this phenomenon was well marked. Infiltration of the soft tissues is a valuable sign, indicating phlebitis and thrombosis of the internal jugular vein, etc. In the third group of cases where the sinus has been opened and a large thrombus extending down into the jugular with coexisting purulent disintegration is seen, not before recognized, and it is not practicable and possible to remove the putrid mass without dislodging dangerous particles, the indications are perfectly clear to ligate the vein in order to prevent disintegration of septic matter. Another indication is the presence of a large firm thrombus, filling the sinus and extending well down into the vein, even if no septic or disintegrating changes be present. It has seemed advisable to Oppenheimer from his observation in cases of sinus phlebitis, to ligate the vein whenever local symptoms indicating its involvement were present. When there was sepsis, and especially irregular temperature and rigors, and when, after the mastoid has been opened, the presence of pus is evident in the vessel.

26. **Chorda Venerea.**—Peterkin considers this condition due to a local gonorrheal diseased area inaccessibly situated, and he would treat it by rest, if possible, prevention of erections, cleanliness, thorough flushing, a regulated diet, keeping clear of excitants and stimulants. In severe cases a fluid diet is needed, instructing the patient to sleep on a hard mattress with light covering and not to rest on the back, to avoid sexual excitement, emptying the bladder at least once during the night, the use of sandalwood oil and local baths to the part, etc., keeping the bowels free and avoiding wet feet. He would also use hot bactericidal solutions, but speaks particularly of the value of massage of the prostate and seminal vesicles in acute gonorrhea as a valuable method in these cases. These relieve the desire for sexual excitement, remove abnormal stimulus and relieve congestion. He gives directions as to the methods of conducting massage by distending the bladder with water, pushing it down and massaging or stripping through the rectum until the prostate and seminal vesicles are emptied of their contents. Once or twice a week is usually sufficient. He thinks at the same time antiseptic injections to cleanse the bladder and urethra should be employed.

27. **Reflex Urethritic Eruptions.**—Two conditions especially noticed by Ravogli are herpes, which he finds, at least in the relapsing cases, to be generally associated with posterior urethritis, and pruritus of the anus, prostate and scrotum, which he found to largely depend on prostatic congestion. In the former disease he would treat the cause, using only local treatment for the herpes, usually washing with soap and water and using absorbent powders for drying. For pruritus he would advise massage of the prostate to relieve the condition of chronic pruritus, and the local use of ichthyol. When the excoriations have healed up and the eczema is improved, employ oxid of zinc ointment, etc. In the case of stricture he would use the sound freely, applying it every two or three weeks and then once a month until no more mucus comes out after its application.

28. **Eye Diseases.**—Marshall calls attention to the value in certain diseases of the eye of warm medicated sprays. They are indicated, he thinks, in almost all the diseases of the conjunctiva, such as acute catarrhal, chronic, epidemic, gonorrheal, trachomatous and phlyctenular conjunctivitis; in corneal diseases like ulcer, infiltration and interstitial keratitis and in iritis.

American Medicine, Philadelphia.

December 26.

29 *Typhoid Fever and Tuberculosis. William Osler.
30 *Retrodisplacements of the Uterus. J. M. Baldy.
31 *The Results of the Surgical Treatment of Ascites Occurring in Cirrhosis of the Liver, with the Report of a Case. Herman B. Allyn.
32 Sarcoma of the Abdominal Wall, and Probably of the Pelvic Viscera, which Has Disappeared Under the Use of the Roentgen Rays. George E. Shoemaker.
33 *The Islands of Langerhans in Congenital Syphilitic Pancreatitis. Richard M. Pearce.
34 *Some Experiments with Radium on Bacteria. Frederick Van Beuren, Jr., and Hans Zinsser.

29. **Typhoid Fever and Tuberculosis.**—Osler points out that these diseases may be concurrent. He thinks enteric fever is rarely mistaken for tuberculosis, but that much more frequently tuberculosis is mistaken for typhoid, and he gives illustrative cases where this mistake is most possible. In rare cases pulmonary consumption follows typhoid, but he does not think that the facts warrant the statement often made that typhoid convalescents are especially liable to tuberculosis. He believes that many of these cases are tuberculous from the outset.

30.—See abstract in THE JOURNAL, xli, p. 1105.

31. **Talma's Operation.**—Allyn reviews the statistics of this operation, including a list of 125 cases, 38 of which died within thirty days after the operation; 35 were not improved, and 51 were improved. About 60 per cent. altogether were not improved. He thinks, however, that a better selection of cases will reduce the mortality and increase the number of cures. In several cases where cure was finally obtained repeated tappings were necessary after the operation and the collateral circulation was only established after months. Certain contraindications, such as feebleness of the heart with chronic nephritis, nervousness, restlessness, etc., are also noted. He believes that in suitable cases the operation deserves a trial. He reports a case which was unsuccessful.

33. **Islands of Langerhans.**—Pearce briefly reviews the literature of the subject and gives the result of certain studies of the development and pathology of these bodies in the embryo. He finds that in the pancreas of the third month the islands are still connected with the acini by solid processes of cells. The proportion of connective tissue is very large, as the rapid glandular growth does not occur until the fifth or sixth months. Any disease of the pancreas occurring at this time would influence the development of the organ, and the evidence of this faulty development would be present at any subsequent stage. Syphilis of the pancreas has been observed as early as the fifth month, and it seems justifiable to conclude that syphilitic infection occurs earlier, at the third or fourth months, when the islands are still connected with the gland tubules, and that the newly-formed connective tissue causes atrophy of the gland, but spares the more resistant islands, as his studies show.

34. **Radium.**—Van Beuren and Zinsser have experimented with radium on bacterial growths, generally with negative results; only in one case, that being dubious, was there an apparent effect. The length of time employed, however, was shorter than that of Pfeiffer and Friedberger's experiments, and only one of the experiments was made in the dark chamber. The interposition of glass between the active substance and the matter to be acted on is also to be considered in estimating their experiments. They think that on the whole their researches point to the conclusion that we can not expect very much bactericidal action from radium.

Cincinnati Lancet-Clinic.

December 26.

35 The Duties and Responsibilities of the Organized Medical Profession. Benj. L. W. Floyd.
35½ President's Address, Ohio Valley Medical Association. A. M. Hayden.
36 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. M. Ricketts.

St. Louis Medical Review.

December 19.

36½ Presentation of a Patient the Subject of Calculous Formations in the Kidney, Ureter and Bladder; the Other Kidney Inactive; Removal of Stones from the Only Active Kidney by Nephrotomy and from the Bladder by Means of the Operative Cystoscope of the Author. Bransford Lewis.

Northwestern Lancet, Minneapolis.

December 1.

37 *How Shall We Treat Appendicitis? A. T. Conley.
38 Rickets. G. M. F. Rogers.
39 Surgical and Medical Emergencies and How Met by the Country Practitioner. Israel Lemieux.
40 Abstract of the Law Relating to the Pollution of the Waters of Lakes and Streams. Rome G. Brown.

December 15.

41 *A Plea for Child-bearing Women. William E. Ground.
42 Modern Renal Surgery. J. E. Moore.
43 *Some Complications of Strangulated Hernia, with Cases. Arthur T. Mann.

37. **Appendicitis.**—Conley advocates the medical treatment of acute appendicitis. He would himself, if called early, give a saline cathartic, but if vomiting is persistent and pain intense he would use ¼ to ½ grain of morphin hypodermically; then follow with a saline. Give as little opium after this as possible and apply the ice bag. As soon as the diagnosis is made insist on absolutely no food being taken by the mouth. If the stomach has not been thoroughly emptied by vomiting use lavage; otherwise he does not advise it. If the bowels are distended with gas and uncomfortable give 8 or 10 drops of turpentine. If the patient insists on taking something, give small doses of tincture of nux vomica or salol or salicylate of sodium. On the third or fourth day he would begin the rectal feeding, using predigested food or simply pure milk with normal salt solution. If the temperature drops to normal with no sign of abscess for two or three days, begin to give milk in small quantities. If an abscess forms, open and drain it. Later in any case if the patient does not recover or has much trouble with recurring attacks have him go to a hospital for operation.

41. **A Plea for Childbearing Women.**—Ground's paper emphasizes the need and greater attention to woman during pregnancy as to her general physical condition, and the accidents that are liable to occur and the percentage of narrowed pelves which seems to be nearly that of 13 or 14 per cent. In the Johns Hopkins Hospital two separate series showed almost identical figures of about 13.1 per cent. Others have given still higher figures. It is a matter that certainly needs the attention of the practitioner. The pregnant woman is subject to all of the diseases that others are liable to with added risk. Typhoid fever is a dangerous complication, causing fetal mortality in about 70 per cent. of cases. The same may be practically said of pneumonia, influenza, scarlet fever, measles, smallpox, etc. Chronic conditions of the heart, lungs and kidneys are badly influenced by pregnancy. Valvular disease of the heart is a very serious complication, especially with failing compensation. Tuberculosis, while it may apparently cause temporary improvement, is a very serious matter to the pregnant woman. There are also pathologic conditions peculiar to the state, such as kidney involvement, which is not by any means too carefully looked for. Slight hemorrhages after the beginning of pregnancy are too often neglected, though they may indicate tubal pregnancy, placenta previa or miscarriage. It is only by timely attention to these complications that safety can be obtained. The position in presentation should be looked after at the seventh month and every two weeks thereafter until the termination of the term, and the possibilities of dystocia should be borne in mind. As regards labor, he speaks of the necessity of absolute asepsis so far as possible. While his talk is elementary he thinks it nevertheless called for. Postpuerperal examination is a feature that is very commonly neglected. An investigation of gynecologic cases show the frequency with which women date their illness from pregnancy and parturition, and all these things mean something. After the immediate repair of the perineal laceration it is necessary to observe the patient for a month or two. There should be an examination four to six weeks after delivery to ascertain if the pelvic floor has sustained injury, if there is any tendency to retrodisplacement, etc., to observe the condition of the cervix and to estimate the process of involution. As regards retrodisplacements, Ground says that much can be done by not allowing the woman to lie on her back during the puerperium, and on every other day during the next three or four weeks having her take up the knee-chest posture and apply ichthyol and glycerin tampons, also not allowing her to hang heavy skirts from her waist. Postpuerperal retroversion can be prevented by compelling the woman to lie on her side after the first forty-eight hours.

43. **Strangulated Hernia.**—Mann notes complications and illustrates them by cases such, for example, as reposition of strangulated hernia *en masse* without attention to whether the strangulation at the neck of the sac still continues. The case here reported shows that lack of pain and localized tenderness is no absolute security. When there is no surgeon at hand taxis may be applied for a longer time, and it may be used with care under anesthesia. But if fecal vomiting and the duration of the strangulation indicates the death of the bowel, further delay is dangerous. The physician, however unwilling he may be, will then do well to operate if he can get the proper assistance.

Medical Fortnighty, St. Louis.

December 10.

44 *The Life Insurance Question with Special Reference to Cardiac Lesions. O. E. Lademann.
45 *Spinal Injuries. N. B. Carson.

44. **Heart Disease and Life Insurance.**—Lademann holds that individuals with a slight defect in the mitral segments, which he calls favorable mitral insufficiencies, who lead a quiet life with light work, such as office work, whose habits are good, are but little more risky for life insurance than healthy individuals in the majority of cases. In the majority of cases such patients when told of their condition will live a life compatible with Nature's efforts to overcome the defect, and it will not be materially shortened by their infirmity.

45. **Spinal Injuries.**—Carson reviews the various forms of spinal injuries, dislocation, trauma to the cord itself, etc., and favors prompt operation in these cases. He has had the opportunity of examining Stewart's case of resection of the cord on two occasions, and is more than ever convinced that if he were called on to operate in a case of crushed cord, he would certainly resect and attempt approximation of the divided ends. He reports a case of dislocation which he reduced by suspension. The patient was totally paralyzed from the waist down and the eleventh vertebra projected beyond the one above so that he could bury three fingers under the projection. The patient ultimately completely recovered. In future cases, however, he would operate instead of using suspension, as his later experience teaches him that laminectomy is less dangerous.

Medical Age, Detroit.

December 10.

46 Tuberculosis of the Brain and Its Meninges. E. G. Wood.
47 *A Brief Anthropological Study in Color. Q. W. Hunter.
48 The Card and Envelope System of Records. A. L. Benedict.

47. **Color.**—Hunter discusses the cause of color variations in the human race which seems to be independent of the anthropological stock. The Arabs and other non-Ethiopians in Africa are often as black as the natives. Native Africans may vary in color from a yellow-brown to a jet black, even in the same districts in different tribes. Another point is why the color of the offspring of the darker races is lighter at birth than later in life, and he notices varying statements in this regard. He believes that the offspring of full-blooded negro parents is a creamy yellow when born, gradually becoming darker, reaching the maximum or natural standard of color from six months to two years after birth. The offspring of a white or light mulatto mother and a full-blooded father will almost invariably be black or extremely dark, while full-blooded negresses have frequently given birth to light yellow offspring, the fathers being white. It is as difficult to explain the variations in color in the different races as it is to explain other peculiar racial characteristics, such as the almond-shaped eyes of the Mongolian, the high cheek bones of the Indian and the flat nose and kinky hair of the negro.

The Alienist and Neurologist, St. Louis.

November.

49 *Responsibility and Crime. J. W. Wherry.
50 *Glossary of the Aphasias, Asymbolias and Alexias, with Comments. Charles H. Hughes.
51 *Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-ethics. (To be continued.) James G. Kiernan.
52 *Note on Automatic Retrospective Slumber. Charles H. Hughes.
53 Out-door Sports for the Insane. J. T. W. Rowe.
54 *Outlines of Psychiatry in Clinical Lectures. (To be continued.) C. Wernicke.

49. **Responsibility and Crime.**—Wherry's article is a plea for the recognition of partial responsibility of the insane. He insists that a large proportion of them are more or less responsible for their acts. To make them irresponsible there should be established a direct connection between the crime and the insanity. He says let the physician determine whether or not insanity is present, and then let the jury decide whether the prisoner is responsible or irresponsible by weighing all the facts and decide whether or not the crime is the direct sequence of the insanity. This, he thinks, would give better results than the methods now in vogue.

50. **Aphasias.**—Hughes' article is a definition and discussion of the various forms of disturbances of speech and other methods of communication. It seems to cover the ground quite thoroughly, and is illustrated with schematic diagrams showing the presumed routes of the different forms of aphasic disturbances.

51. **Myxoscopic Adolescent Survivals.**—Kiernan's article is to be continued.

52. **Automatic Retrospective Slumber.**—What is understood by this title is explained by Hughes as a condition in which some extremely neurasthenic persons suffer from having the facts and actions of the day pass through the mind after sleep sets in, the mental ground of the preceding waking state being gone over again by the mind in a dream. For a long time these cases escaped his attention, he says, as he regarded them as only ordinary dreaming, but they differ from ordinary dreaming in that they are a repetition of the acts of the preceding waking period. The condition, he says, is plainly a brain tire symptom, similar in causation to the autopsychorhythmia previously described by him.

54. **Delirium Tremens.**—Wernicke's lecture covers this entire subject.

Quarterly Journal of Inebriety, Hartford, Conn.

October.

55 The Study of Inebriety: A Retrospect and a Forecast. Harry Campbell.
56 *Sea Voyages in the Treatment of Inebriety. Martyn Westcott.
57 The Care and After-care of Inebriates. Heywood Smith.
58 *Nature's Immunization of the Race Against Alcoholism—A Review and Criticism of Dr. G. Archdall Reid's Work on Alcoholism. Winfield S. Hall.
59 The Treatment of Inebriates. A. M. Roseburgh.

56. **Sea Voyages for Inebriates.**—Westcott points out the advantages and disadvantages of sea voyages for curable cases of inebriety. For the confirmed sot they are useless, and he thinks that excepting under favorable circumstances they are not advisable even for other cases. It is only where the patient will allow himself to be thoroughly under control and be absolutely restricted from all alcoholics that they will be of value. Under such circumstances there is no doubt that he might derive considerable benefit from the fresh outdoor life and change of surroundings of a sea voyage.

58. **Racial Immunity Against Alcohol.**—Hall accepts much of Archdall Reid's theory that the race becomes more or less immune or free from the alcohol appetite by natural selection, but thinks that his theory of the method is too pessimistic, and that much can be done by the proper care by the state of the children of inebriates.

Medicine, Detroit.

December.

60 Christian Fenger as Pathologist. E. R. Le Count.
61 *Tetanus and Vaccine Virus. John H. Huddleston.
62 Preliminary Report in the Case of a Patient in the Practice of Drs. Hyde and Montgomery, in the Prefungoid Stage of Mycosis Fungoides, Treated with Radiotherapy. Oliver S. Ormsby.
63 Specialism in Its Modern Significance. Albert B. Hale.
64 Action Taken by the Department of Health on the Report of a Case of Smallpox. A. Blauvelt.
65 *Report of Committee of the Laboratory Section of the American Public Health Association on Bacillus Tuberculosis in Man and Animals. Mazyck P. Ravenel.
66 The Development of American Bacteriology. H. L. Russell.

61. **Tetanus and Vaccine Virus.**—Huddleston has experimentally examined to find whether calves used in vaccine laboratories are likely to be infected with tetanus germs. He concludes that the feces of calves fed on hay may contain the tetanus germs. They do not appear in the glycerinated virus. If any form of vaccine virus, either dry points or tubes of glycerinated virus, is infected with tetanus it may convey it. Small amounts of infection easily fail of demonstration, both by animal and by cultural tests. If the tetanus germs are applied in quantity to the inoculated areas of a calf at any time during the period of vaccine production, the tetanus may be present in the vaccine virus. Inoculation by scarification is a possible method of inducing tetanus in susceptible animals. He holds that it is probable that precaution against the issue of infected vaccine virus consists less in tests of the virus than in the care taken during the production, and especially in the cleanliness of the methods in use in the stable and laboratory.

65. **The Tubercle Bacillus in Man and Animals.**—This report is signed by de Schweinitz and Moore, and says that in summing up the available evidence there is strong ground for

believing in the genetic unity as well as the intertransmissibility of the human and bovine races of the tubercle bacillus. The committee considers that it has been positively proven that a certain proportion of persons, chiefly young children, meet their death through infection with the bovine tubercle bacillus, but the extent of this danger is not ascertainable with present knowledge.

Medical Herald, St. Joseph, Mo.

December.

67 *The Mechanical Problems of Intubation. B. F. Gillmor.
68 Medical Ethics. John D. Seba.
69 Cough; Its Sequelæ and Suggestive Treatment. L. H. Warner.

67. **Intubation.**—Gillmor's article is rather fully illustrated, giving his views and experience with intubation. He prefers the Feroud-Thorner tube to the O'Dwyer instrument as having certain advantages, being insertable by any kind of intubator and better shaped. The article is hardly abstractable without the illustrations, which are very numerous.

Atlanta Journal-Record of Medicine.

December.

70 Pathology and Symptoms of Constipation. Mark W. Peyser.
71 Puerperal Insanity. J. W. Palmer.
72 Pathology and Treatment of Some of the Affections of the Upper Air Tract. James M. Crawford.
73 Some Indications for the Use of Normal Saline Solution. J. B. Morgan.
74 *An Operation for Permanent and Quick Cure of Hemorrhoids. Almost Bloodless and Painless. John C. McAfee.
75 The Treatment of Gonorrhea. S. D. Warnock.

74. **Hemorrhoids.**—McAfee operates for hemorrhoids by divulsing the sphinceter, using a clamp devised by Dr. Earle of Baltimore, to whom priority of the operation belongs, applied to the base of the pile in its linear axis at junction of normal mucous membrane, and then locked. Then using a double-thread catgut suture (Lee's No. 2) he sews under the clamp at the muco-cutaneous junction, catching the two distal ends of the thread in a forceps. After the needle is drawn through under the pile clamp, one of the threads on the needle side is cut off to facilitate tying. Then, cutting off the pile above the clamp a continuous suture is carried round and round the clamp, proceeding toward the upper end of the pile tumor. When the upper end is reached it is tied, the clamp withdrawn, the suture tightened and the lower end tied. This procedure is then carried out with each pile tumor till all are removed. He has performed this operation in 25 cases without any complications or trouble. The loss of blood is practically *nil* and the approximation of the cut edges is perfect and there is no tissue constriction. Anodynes are often not needed after the operation. A patient can return home in a week, and usually returns to work at the end of ten days.

Memphis Medical Monthly.

December.

76 A Tri-state Summary. John W. Hayes.
77 *Experimental Medicine. Wm. Krauss.
78 *The Advantages of Cesarean Section Over Other Methods of Delivery in Cases of Obstructed or Deformed Pelves. H. Lee Farris.
79 Acute Infectious Cholecystitis. A. A. McClendon.
80 Prostatic Abscess. Allen E. Cox.
81 Two Unusual Obstetrical Cases. W. S. A. Castles.

77. **Experimental Medicine.**—Krauss' article is an exposition of the conditions of immunity and contagion according to the Ehrlich theories.

78. **Cesarean Section.**—Farris holds that the life of the infant, under certain conditions, justifies cesarean section, which has as low a mortality as easy ovariotomy. Classical cesarean section is less mutilating than Porro's operation, and with the patient in good condition is the elective method. The Porro cesarean has about the same mortality as hysterectomy for fibroids, and it should be performed when the patient demands it or when infection or neoplasm makes it necessary. The practitioner should be prepared in the case of a multipara with a history of one or more dead children to perform the operation if necessary. If he does not possess the necessary surgical training he should call in surgical assistance.

Interstate Medical Journal, St. Louis.

December.

82 Lacunar Tonsillitis. James M. Brown.
83 A Case of Traumatic Injury to the Brain Involving the Tongue Center—Operation. Willard Bartlett and Sidney I. Schwab.
84 The Relationship Between Certain Catarrhs of the Skin and Certain Catarrhs of the Mucous Membrane of the Eye, Ear, Nose and Throat. Martin F. Engman.

Journal of the Michigan State Medical Society, Detroit.

December.

85 The Omentum. W. H. Haughey.
86 A Study of Some Difficulties in the Use of the Obstetric Forceps. James E. Davis.
87 The Management of Smallpox in Houghton County, with Report of 288 Cases. W. H. Matchette.
88 Electrophysics and Their Application to the Scientific Treatment of Disease. C. L. Barber.
89 A Study in Cases Illustrating Points of Diagnosis in Obscure Appendiceal Disease and Others Simulating Appendicitis. H. W. Longyear.
90 Prolapse of Uterus, Vagina and Bladder. J. G. Lynds.
91 Flatulence, Meteorism and Tympanites. Charles D. Aaron.
92 Hyperemesis Gravidarum. L. Breisacher.
93 Some Essential Points in the Use of the Kelly Female Cystoscope. Benjamin R. Schenck.

Canadian Practitioner and Review, Toronto.

December.

94 President's Address. J. T. Fotheringham.
95 A Report on the Systematic Use of Antitoxin as a Prophylactic Measure in Diphtheria at the Hospital for Sick Children, 1902-03. J. S. A. Graham.
96 Anesthetics and Surgery. John Hunter.

Virginia Medical Semi-Monthly, Richmond.

December 11.

97 Cancer of the Stomach. Hugh M. Taylor.
98 Physical Findings of Pulmonary Tuberculosis. Robert F. Williams.
99 A Medical View of the Prevention of Appendicitis. Alex. G. Brown, Jr.
100 Saline Infusion—Methods of Use—Therapeutic Values—Cases. H. C. Beckett.
101 Report of Cases Showing the Efficacy of Electricity and Hot Air. S. G. Slaughter.
102 Congenital Absence of the Appendix. John W. Dillard.
103 Value of Auscultation in the Diagnosis of the Fetal Position. W. A. Plecker.
104 Some Remarks on the Importance of Otorrhea. Clifton M. Miller.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

November 30.

105 The Technic of Roentgen Ray Treatment. Mihran K. Kassabian.
106 *The Treatment of Carcinoma and Tuberculosis by Means of the Roentgen Rays. G. E. Pfahler.
107 Roentgen-ray Treatment of the Eye and Its Appendages. William M. Sweet.
108 Roentgen-ray Treatment of Keloid. Henry K. Pancoast.
109 The Finsen Light and Roentgen Rays in the Treatment of Diseases of the Skin. Jay F. Schamberg.

106.—See article in THE JOURNAL, xli, p. 1406. This number of the Proceedings was received by us December 10.

Vermont Medical Monthly, Burlington.

October 25.

110 The Bacteriology and Pathology of Diphtheria. B. H. Stone.
111 Hernia of the Appendix. E. E. Ellis.

Nashville Journal of Medicine and Surgery.

October.

112 Hemorrhoids. J. B. Witherington.

Wisconsin Medical Journal, Milwaukee.

November.

113 Goiter. John T. Rogers.
114 Shortcomings of the Physician; Particularly in His Relations to the State and to Hygiene. A. F. Fuchs.
115 The Remote Sequelæ of Adenoids. C. D. Conkey.
116 Indigestion—A Few of Its Causes and a Few of Its Effects. H. B. Sears.
117 Cough in Influenza Simulating Whooping Cough. Pseudo-Pertussis. Arthur J. Patek.

Medical Summary, Philadelphia.

December.

118 Cider Vinegar as a Remedy. W. H. Blake.
119 Medicinal Value of Chlorinated Lime. J. Dabney Palmer.
120 Treatment of Some Forms of Cutaneous Diseases. A. V. Banes.
121 Rheumatism—Acute, Sub-acute, Articular and Chronic. J. C. Densten.
122 Psychic Nerve Disease. C. E. Patterson.
123 Concerning Some Indigenous Medical Plants. H. A. Carrington.
124 Common Sense in Dietetics. William Wormley.
125 The Rest and Open-Air Treatment of Pulmonary Tuberculosis, with Special Reference to Tent Life in the Low Lands of Arizona. H. E. Stroud.

Kansas City Medical Index-Lancet.

December.

126 The Examination of Railway Employes. W. E. Guthrie.
127 Postpartum Hemorrhage. G. A. Wall.

128 A Case of Pleural Empyema from Systemic Infection. Frank C. Neff.
129 Surgery of the Thyroid. (Concluded.) Benjamin M. Ricketts.

Kansas City Medical Record.

December.

130 An Address Delivered Before the Jackson County Medical Society. John W. Kyger.
131 Rheumatism. William Waugh.

Medical Examiner and Practitioner, New York.

December.

132 Can an Ophthalmic Examination Aid the Life Insurance Examiner in His Work? George F. Suker.
133 Doubtful Risks. Joseph E. Messinger.
134 Conditions After Complicated Fracture which May Lead to Amputation, Osteoplasty, etc. Thomas H. Manley.
135 Nine Questions on Syphilis, with Answers from a Number of Authorities. B. B. Foster.
136 The Treatment of Diabetes Mellitus. Clarence G. Clark.

Detroit Medical Journal.

December.

137 The Results in a Series of 48 Kidney Fixations. Benjamin R. Schenck.
138 The Bladder Segment of the Ureter. Byron Robinson.
139 Method for the Cure of Stammering and Stuttering. Geo. Andrew Lewis.

The Post-Graduate, New York.

December.

140 The General Therapeutic Management of Febrile Diseases in Children. Augustus Caillé.
141 Graves' Disease. Thomas E. Satterthwaite.
142 Lecture on Typhoid Fever Delivered at the New York Post-graduate Medical School on Nov. 2, 1903. Leonard Weber.
143 Instruction of Post-graduate Medical Students in the Use of the Cystoscope. Follen Cabot.
144 The Inoculation of Syphilis in the Lower Animals. Justin De Lisle.
145 Misoneismus. The Deeply Rooted Inclination of Mankind to Combat New Ideas. A. Rose.

Annals of Gynecology and Pediatry, Boston.

December.

146 The Treatment and Management of Post-operative Tuberculous Patients, and a Plea for the Establishment of Seaside Sanatoria and Convalescent Homes. S. A. Knopf.
147 Fixation of the Prolapsed Kidney. Augustin H. Goelet.
148 Hymen Intactus; Its Significance in Medical Jurisprudence. Charles G. Cumston.

Medical Mirror, St. Louis.

November.

149 Physiologic Reactions of Drugs as an Indication of Therapeutic Action. George F. Butler.
150 The Non-surgical Treatment of Boils, Carbuncles and Felons. Orman Barnesby.
151 Some Recent Advances in Medical Therapeutics. Thomas E. Satterthwaite.

Journal of Mental Pathology, New York, Vol. V, No. 1.

152 On the Intracellular Network of Golgi of the Nervous Elements of the Spinal Cord in the Adult Superior Vertebrate. Serge Soukhanoff.
153 Suicidal and Homicidal Acts, Their Clinical Aspects and Medicolegal Significance. Louise G. Robinovitch.

Pennsylvania Medical Journal, Pittsburg.

December.

154 Address on Hygiene and State Medicine, Medical Society of the State of Pennsylvania. Seneca Egbert.
155 *The Effect of an Improved Municipal Water Supply on the Prevalence of Enteric Diseases. J. Frank Small.
156 *A Contribution to the Clinical Study of Cerebrospinal Meningitis. Thomas C. Ely and J. J. Snyder.
157 *Aneurism of the Left Subclavian Artery Treated by Wiring and Electrolysis. Judson Daland.
158 Typhoid Fever. L. B. Kline.
159 A Case of Mixed Infection. Typhoid—Pyemia. I. R. Schoonmaker.
160 *The Need of a Ward in the General Hospitals for the Treatment of the Mild and Curable Insane. John H. W. Rhein.
161 *The Dietetic Treatment of Chronic Nephritis. J. M. Anders.
162 Diseases of the Rectum a Specialty. Herman A. Brav.

155, 156, 157.—See abstract in THE JOURNAL, xli, p. 981.

160, 161.—Ibid., p. 982.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

December 19.

1 Medical Politics. Victor Horsley.
2 *An Introduction to the Study of Clinical Surgery. Charles B. Lockwood.
3 *The Operative Treatment of Cranial Depression. James H. Nicoll.
4 Case of Congenital Deformity of the Nose Associated with a Degree of Median Harelip. Alex. MacLennan.
5 Transplantation of the Insertion of the Biceps Tendon for Persistent Contraction of the Knee-joint in a Case of Rheumatoid Arthritis. C. Mansell Moullin.
6 Case of Sarcoma of the Femur, with Description of a Recent Method of Amputation at the Hip-joint. C. A. Griffiths.
7 *"India-rubber Jaw": A Peculiar Carcinomatous Invasion from the Submaxillary Salivary Gland. J. Burton Cleland.
8 *Abdominoperineal Excision of the Rectum by a New Method. Louisa B. Aldrich-Blake.
9 Three Cases of Gastric Ulcer Perforating Acutely. C. W. Smeeton, C. C. Smith and J. G. E. Colby.
10 Three Cases Treated by the X-rays. F. Osmund Stedman.
11 Duration of Mediterranean Fever. P. W. Bassett-Smith.

2. **Surgical Diagnosis.**—Lockwood calls attention to the importance of personal ocular observation of the closest character, avoiding needless touching, especially rough handling. The order in which things are done should not be left to chance. It may be determined by the question of pain. Thus in an inflamed joint the least painful part of the touching is done first. In tubercular arthritis of the hip-joint rotation is lost, then abduction, adduction with even fixation and extension, the movements returning in due order. The degree of danger may determine the order of examination. The abdomen is first examined without anesthesia, then under an anesthetic and lastly by exploration. These steps, or what he calls the surgical crescendo, should also be applied in the treatment. The habit of attention should be cultivated. In asking questions try to avoid leading ones and observe the unconscious gestures which are valuable aids to diagnosis; thus the facies of the syphilitic cephalagics; the almost unmistakably characteristic posture of chronic appendicitis with trunk slightly bent forward when the pain is inquired about, the flat of the hand placed in the right iliac fossæ. The movement is instinctive, the question recalls the pain and the attitude which gives relief is instinctively resumed. The attitude of a child with tuberculous caries is another characteristic one. The three cardinal rules of diagnosis are: 1. Look at the whole patient; 2, examination of the whole diseased part, in motion and at rest; 3, compare the two sides of the body. The habits of rapid observation and rapid inference are capable of the highest cultivation. He advises also to study books on expression of sensations. Lavater, he says, is full of observation without science; Bell betrays the dawn of science; Darwin's work is full of observation guided by scientific method and reasoning. The rule that tells you to examine the whole of the diseased limb, or structure is often neglected, and he gives as an instance one of painful ulceration of the foot which had no characteristic by which it could be at once diagnosed until the enlarged glands of the groin were also seen, indicating its malignancy. If the lymphatic glands of the neck are diseased examine those in the groin, axilla and abdomen and feel for the spleen. Examination of the whole diseased structure may be a hard task and may require elaborate study or examinations like *x*-ray photographs, cystoscopy, endoscopy and other methods. The sound side is the standard by which the unsound can be judged and the excretions or whatever passes from the body should also be thoroughly examined. In conclusion he advises to decline arriving at a diagnosis without seeing things, and in this way to escape many pitfalls and humiliations.

3. **Greenstick Skull Fracture.**—Nicoll reports and illustrates several cases of this injury, part birth fractures and part due to injuries in infancy, all of which were operated on by the method of trephining and inversion of the depressed portions. In 5 of the cases complete correction of the deformity resulted: in one partial correction. One of the most striking features of the results has been the rapidity of union observed in the bone. At the end of one week, when the scalp sutures were removed, the inverted disc of the bone was in all cases found to be firmly united with the skull, even in one case aged four years where the patient was thus past infancy.

7. **India-rubber Jaw.**—This peculiar formation, consisting in complete removal of the bony tissue and supplanting it by more elastic cellular growth, is described at length, and a case reported by Cleland where removal of the jaw was made and there has been as yet no recurrence. He calls attention to the rarity of the condition, the slight interference with the general health, the peculiar characteristic of elasticity and the absence of

practically all degenerative processes, even where the cells are aggregated until considerably massed. The teeth were complete and perfect, though fixed merely in a dense fibrous matrix and undoubtedly received a good blood supply. Other points were that the growth was little affected by its environment, and the perfect way in which the invading tissue followed the form of the tissues from which it had sprung. We rarely see all the arrangements of original structure reproduced in carcinoma. The method of invasion of the bone was also characteristic. The bone corpuscles toward the periphery enlarged and apparently multiplied and formed in its periphery a layer of large irregular cells which became transformed into spindle-shaped connective tissue cells and into such the epithelial masses grow. Whether the bone corpuscles really changed into these spindle-cells or whether the epithelial masses in their advance merely pushed before these connective tissue cells can not be definitely stated, but he inclines to believe the former. There is a change or decalcification that goes on ahead of the epithelial columns, and he questions whether it is a production of some toxin or complex organic acid; in fact, whether it is a purely chemical process.

8. **Excision of the Rectum.**—The method here described by Aldrich-Blake consisted in a laparotomy, a U-shaped incision in the peritoneum, pushing down of the sigmoid toward the anus, sewing the cut edge of the U-shaped incision to the lateral and the anterior aspects of the straightened sigmoid making a shallow Douglas pouch. Then the patient was put in the lithotomy position and the anus cut posteriorly, to the coccyx, the tissues freed till the portion dissected free above was reached. The rectum was then severed about ¾ inch above the anus and the upper part pulled down until the guiding suture left above appeared, at which level it was severed and connected by silkworm gut sutures to the lower end. In the case reported the patient made an uninterrupted recovery. He says the idea of bringing the sigmoid flexure to the anus is not new, but so far as he knows the operation as he has described it has not been performed elsewhere. He thinks it is a simple and convenient one.

The Lancet, London.

December 19.

12 *The Modern Treatment of Fractures of the Clavicle, Wrist and Ankle; Dislocations of the Shoulder, Elbow and the Semilunar Cartilages of the Knee-joint. F. F. Burghard.
13 *Remarks on 50 Consecutive Cases of Perforated Gastric and Duodenal Ulcer Treated by Laparotomy. T. Crisp English.
14 *Cleft-palate and Harelip; the Earlier Operation on the Palate. Edmund Owen.
15 *Note on the Respiratory Movements in Hemiplegia. Judson S. Bury.
16 A Case of Arterial Thrombosis of Gonorrheal Origin. F. Craven Moore.
17 *A New Silver Salt in the Treatment of Gonorrhea. J. S. Purdy.

12. **Fractures.**—Burghard notices the advances which have been made in the treatment of fractures, such as the use of the *x*-ray for diagnosis, the extended use of general anesthesia in treatment, but most important of all is the use of massage and early passive movements. In any fracture there are two distinct lesions beside the bone injury; one a tearing of the muscle and tendon structures and the other, an extravasation of blood. Both require attention. The effused blood can best be limited and its absorption hastened by the use of massage from the very beginning, but this alone will not do for the treatment of torn muscular or tendinous structures, and to prevent their adhesion, passive movements must be begun very early. A regular routine should be adopted, with perfect coaptation, especially under anesthesia, and some form of retention apparatus applied so as to leave the seat of fracture either exposed or accessible without disturbing the ends, fixing the joint above and the joint below the fracture, but not those beyond, such as the fingers and toes, as passive movement is to be begun in them at once. If there is no muscle spasm the limb can be left undisturbed until the next day. Smooth rubbing over the area of fracture is very useful in allaying spasm and relieving pain. It should be rubbed upward as smoothly, gently and evenly as possible for several minutes and the operation repeated for several days. On the third day it may be followed by passive movements of the smaller joints beyond the fracture. Passive movement of the joint above may be left until a later date with advantage. At first the massage and passive movements should be practiced only for a few minutes once a day, but may be gradually increased until finally they occupy half an hour or more. The third week the fracture will be sufficiently solid to be taken out of the splint, and after the end of the third week the splint may be entirely dispensed with or a very light casing employed. In the case of dislocation also the present-day treatment shows an advance on that formerly in use. The old plan was to immobilize the limb, but this is useless and a cause of wasting of muscles, adhesions, etc. If, instead of doing this, early passive movement, massage and even active movement is employed nothing but good is likely to follow. He applies these principles to fractures of the clavicle, using a sort of figure 8 bandage, or what is called the handkerchief method, in the treatment of this fracture, and advises overhand movements at the end of a fortnight, gradually increasing in range and direction. Colles' fracture and Potts' fracture are also discussed with their relation to passive movements and also dislocations of the humerus, elbow and the semilunar cartilage of the knee.

13. **Gastric Perforation.**—English analyzes the experience of the St. George Hospital in the treatment of gastric perforation, noticing the premonitory symptoms which are of importance, but which may be lacking even immediately before the perforation. They are most likely to occur in cases in chronic and marked ulcer. There is a progressive increase in discomfort and pain after eating, with vomiting and superficial and deep tenderness in the epigastrium. When such conditions occur, active and deep ulcer should be suspected, the patient put to bed and no food administered by the mouth. Morphin should be avoided as masking the symptoms. The condition of the patient is no guide to the lesion. Vomiting occurred in over 75 per cent. of the cases studied, usually shortly after perforation and generally with recurrence during the first few hours. The situation of the perforation is nearly always near the lesser curvature rather than the greater. The complications are most frequently pleurisy; parotitis occurred in five cases; all symptoms and physical signs of perforation may be presented, and yet the stomach be found intact, but the correct treatment is to explore wherever perforation is suspected. General irrigation of the peritoneal cavity was employed in 31 of the 50 cases; local irrigation in 9 cases and in the remainder sponging only was employed. The mortality was 50 per cent. in all. There is an increasing tendency to dispense with drainage. The after-conditions of successful cases were surprising to him. In all of the 24 cases which he followed up there were no gastric or other symptoms. In 4 there were dyspeptic symptoms, but no signs of gastric ulcer. In one there was some evidence of peritoneal adhesions, and in one edema of the leg following thrombosis. Seven cases were not traced.

14. **Cleft Palate.**—Owen advocates the Brophy operation for cleft palate, which he finds gives excellent results and is well borne, in spite of its apparent severity.

15. **Respiratory Movements in Hemiplegia.**—Bury has examined to test the correctness of Hughlings Jackson's statement that involuntary respiratory movement is increased on the paralyzed side of the hemiplegic while voluntary inspiratory movement is most marked on the other, thus indicating the difference in the innervation of the two classes of movements. He has examined a large number of cases, and in at least 60 per cent. the movement of the upper wall of the thorax was greatest, in the ordinary breathing, on the paralyzed side. He experimented with a graphic apparatus, and his tracings show that the voluntary respiration was greatest on the well side and the accuracy of Jackson's observation is confirmed.

17. **Argyrol.**—Purdy offers a British confirmation of the value of this drug in gonorrhea.

The Practitioner, London.

December.

18 *A Lecture on the Mental Disorders Associated with Decay. G. H. Savage.
19 The Treatment of Chronic Suppurative Otitis. F. Faulder White.

20 Clinical Examination of the Gastric Contents. Herbert French.
21 *The Question of Operation in Cancer of the Stomach. B. G. A. Moynihan.
22 Remarks on Some Results of Open-air Treatment. Claude C. Chidell.
23 Immunity and Treatment. Albert S. Grunbaum.
24 Diseases of Children: A Review of Recent Work. George F. Still.
25 A Review of Recent Literature in the Field of Dental Surgery. J. G. Turner.
26 A Case of Intrathoracic Tumor. Richard Alcock.
27 Tetany Occurring in a Patient Suffering from Gastric Cancer. James Burnet.
28 Summer Diarrheal Mortality in London. Louis C. Parkes.

18. **Mental Disorders Associated with Decay.**—Savage holds that senility is only relative and that premature senility gives the same results that the normal does; that environment has much to do with it. A man might retain the possession of his faculties to a good old age under quiet country life who would break down much earlier under the stimulus and surroundings of the city. He points out the characteristics of senile breakdown, more especially the defects of memory for recent events, which distinguishes the condition from the dementia of paresis where memory for recent events is generally retained. He holds, however, that paresis may occur in old age, though it is exceptional. There is also a loss of control as evidenced by maniacal outbreaks and in the lack of moral inhibitions. Special attention should be given to the characteristic cases of senile melancholia of the hypochondriacal type frequently associated with ideas of intestinal obstruction. There may be melancholia without melancholy, that is, the patient may not be actually depressed. A visible sign is the monotonous habit of repeating things and many of the patients who pass into senile chronic melancholia really do not suffer. Visual hallucinations are not uncommon and may be present with comparatively little general derangement.

21. **Gastric Cancer.**—Moynihan reviews the operations and the statistics. The questions he says that are in urgent need of settlement are: 1. Will palliative operation on the stomach prolong life? 2. Will it make the remnant of life more tolerable and the patient feel that the ordeal of the operation is justified in the greater comfort that he has obtained? 3. Will resection give reasonable promise of cure? 4. Will it not, if followed by recurrence, give increased length of days and better health? Kronlein's statistics are quoted and his conclusions stated, namely, that carcinoma of the stomach without operation is usually fatal within a year; that gastro-enterostomy prolongs the life of the patient for about three months on an average and that gastrectomy, so far as it is followed by recurrence, prolongs the life on an average fourteen months. Mikulicz' statistics are also given and compared. The results are almost the same as those of Kronlein, though the number was considerably greater. Moynihan says it must be admitted that we rarely obtain cases early enough to be hopeful and until more accurate methods of diagnosis are established, it is absolutely imperative that we should have recourse to exploratory laparotomy. To better our results we must explore not to confirm, but to make a diagnosis. While gastro-enterostomy has been spoken of unfavorably, excepting where there is pyloric obstruction, by Kronlein, von Mikulicz and others, Moynihan says there is no doubt it is occasionally productive of remarkable benefit, even when the growth does not actually obstruct by its blocking of the passage of food. In the majority of cases, however, little or no benefit results. If after exploration a growth is found obstructing the pylorus or narrowing the stomach and causing an hour-glass condition, or if food stasis is present gastro-enterostomy will give very decided relief, but if the growth is confined to one or other of the curvatures without stenosis or stasis, this operation will not prolong life or make it more comfortable. The operation of gastrectomy in the hands of von Mikulicz, Carle and Fantino has given less mortality than gastro-enterostomy. It prolongs life more and there is a greater degree of comfort to the patient. He is relieved by the removal of a foul ulcerating growth and while, in the majority of cases, the growth will recur either locally or generally, the question arises whether it should not be performed deliberately as a palliative operation even when an early secondary deposit can be seen elsewhere. He sums up its advantages over gastro-enterostomy thus: In the most competent hands its mortality is even less; that prolongation of life for ten months longer than the period for gastro-enterostomy is the rule and that the comfort, general health and appetite are all emphatically better and the patient has a chance, though it may be a slim one, of complete recovery. Taking all these into consideration no doubt the operation of choice will be gastrectomy. If it is found on opening the abdomen that neither of these operations can be performed, some relief may be obtained by performing duodenostomy or jejunostomy. The scope of these operations is limited, but where prolongation of life for a few weeks is of great importance they are justified. The operations are simple, easily done, cause little or no shock and if it is necessary can be done under cocain anesthesia.

Revue de Médecine, Paris.

Last indexed XLI, page 1171.

29 (XXIII, No. 7.) Paralysie générale et grossesse (pregnancy). S. Soukhanoff.
30 Secondary Cancer in Brain, Cerebellum and Medulla. L. Gallavardin and F. Varay. (Commenced in No. 6.)
31 *De la nycturie dans les affections cardio-vasculaires. Péhu. (Commenced in No. 5.)
32 (No. 8.) *L'alimentation des albuminuriques. G. Daremberg and F. Moriez.
33 Périgastrites adhésives antérieures consécutives aux ulcères gastriques. F. Duplant.
34 *Pathogénie, pronostic et thérapeutique du tabès (d'après 1960 observations). A. Belugou (Lamalou).
35 Etude thérapeutique et expérimentale sur la métabenzamidosemicarbazide (cryogénine). G. Carrière. (Commenced in No. 6.)
36 (No. 9.) Toxines pyrétogènes dans le paludisme. J. Régnault.
37 Troisième cas de fièvre typhoïde à localisations anormales (colotyphus). V. Le Goïc.
38 Contribution à l'étude des troubles intellectuels dans l'impaludisme. E. M. de Montyel. (Commenced in No. 7.)
39 Observations cliniques et anatomo-pathologiques sur la gastrosuccorrhée continue et sur la tétanie gastrique. L. d'Amato. (Commenced in No. 8.)
40 (No. 10.) Le faisceau pyramidal homolatéral. Le coté sain des hemiplégiques (the sound side in hemplegics). P. Marie and G. Guillain.
41 Erythromélalgie suivie de gangrène des extrémités avec autopsie. Lannois and A. Parot.
42 Anomalies artérielles. Brides intravasculaires. V. Aubert and A. Bruneau.
43 Pleurésie cancéreuse secondaire à prédominance fibreuse. Boinet and Olmer. (Commenced in No. 9.)

31. **Night Urination in Cardiovascular Affections.**—Retention of urine during the day and excessive urination during the night is not restricted alone to diabetes and sclerosis of the urinary apparatus, but is encountered also in affections involving the major or minor or the portal circulation. Péhu's clinical study of the subject indicates that the nycturia is due to insufficiency of the heart musculature which is unable to eliminate the fluids ingested during the day. They remain stored up in the tissues until the system relaxes during sleep and the arterial pressure rises. Elimination of the fluids then proceeds more rapidly. From this point of view nycturia may be regarded as an important sign of cardiac insufficiency outside of definite periods of "asystolie" (insufficient contraction of the left ventricle). Nycturia indicates reduction of the intake of fluids in order to lessen the task imposed on the heart.

32. **Diet in Albuminuria.**—Experience has convinced Daremberg that fish is an excellent article of diet in albuminuria, taken two or three times a week at noon. Two glasses of Vichy daily aid in maintaining the balance. After three or four weeks of this combination beef can be resumed with impunity, and finally an ordinary diet, abstaining only from alcohol, tomatoes and asparagus. His experience has been very favorable with this régime in cases of variable albuminuria—relic of a renal affection due to some infectious disease. Study of the relations between the albumin, the uric acid and the total acidity of the urine has shown that they all increase and decrease in parallel proportions in normal conditions. When the curves of the uric acid and total acidity are found to be at variance, the reappearance of albuminuria is imminent and should be guarded against by careful dieting.

34. **Tabes.**—Belugou remarks that tabes is extremely rare in women; all but 4 per cent. of his 1,960 patients were men. Syphilis was beyond question in 77 per cent. of the total number. The affection was rapid and fatal in 36 per cent.; 5 per cent. recovered, and in 59 per cent. the course was mild,

either arrested or with remissions. Antisyphilitic treatment coincided with marked improvement in 20 per cent., but improvement was equally marked in 23 per cent. who were not treated medicinally in any way. Antisyphilitic treatment should be tried in every case, he concludes, but it should be watched, as it is liable to aggravate the condition. Aggravation was noted among 44 per cent. of the 332 under mercurial treatment, and only in 24 per cent. of the 260 not treated. Mercury should, therefore, be abandoned if no benefit is apparent after a fair trial.

Semaine Médicale, Paris.

44 (XXIII, No. 47.) Les troubles de la motilité dans la maladie de Thomsen. A. Jaquet.
45 (No. 48.) *De la glycolyse dans ses rapports avec le diabète sucré. R. Lépine.
46 *La crépitation laryngée signe de tuberculose pulmonaire. Remouchamps.
47 Letter from America. F. Munch.—Sociétés et associations médicales aux Etats Unis.
48 *L'opothérapie rénale contre les suppurations du rein (of kidney). E. Cassaet. (Editorial abstract.)
49 (No. 49.) La nouvelle Convention sanitaire internationale.
50 Des diverses formes de rechutes typhoidiques (typhoid relapses). M. Coste (Marseilles).
51 *Les indications de l'emploi de l'adrénaline en gynécologie. N. N. Fénoménov. (Editorial abstract.)

45. **Sugar Metabolism in Relation to Diabetes.**—Lépine has long sustained the theory that the pancreas, by means of its internal secretion, has a marked promoting influence on sugar destruction. Further research has shown, he states, that several glycolytic processes take place in the tissues, variable in their factors and mechanism. Also that there are a number of glycolytic ferments, and that the one in the blood is aërobic. Sugar metabolism is reduced in diabetes, and the glycolytic power of the arterial blood is likewise reduced in asphyxia, in concussion of the brain and after removal of the pancreas in dogs. The glycolytic power of the blood is enhanced by slightly increased alkalinity, and by stimulation of the pancreas. The latter was accomplished in his research by faradization of the nerves accompanying the pancreatico-duodenal artery, or by heating or massaging the organ. Simple ligature of the pancreatic duct also enhances the sugar-destroying power of the blood, and this effect is much more pronounced if accompanied by ingestion of an acid drink. This latter fact he attributes to the influence of the acidity of the stomach on the production of pancreatic juice, which fact Pavlov has established. Lépine refers to Cohnheim's announcements that pancreatic juice and muscle juice combined have a much more powerful sugar-destroying action than either alone. (See editorial on page 1480 of last volume.) He adds that this discovery was forecast in his own work published in 1899, in which he announced that pancreas tissue favored alcoholic fermentation, and further, that this favoring influence was much magnified by previous stimulation of the pancreas. In some of his experiments the fermentation was three times as active after the pancreas tissue had been previously stimulated, than in the control tests. These results were obtained the same even after the organ had been cooked. In later research on dogs he has shown that lymph from the thoracic duct of a dog promoted alcoholic fermentation much more when it was taken after preliminary excitation of the nerves of the pancreas. In conclusion he asserts that recent experiences have demonstrated that the *x*-rays have a marked influence in promoting sugar metabolism in the blood *in vitro* and in the living dog.

46. **Laryngeal Crepitation as Sign of Tuberculosis.**—Remouchamps confirms the great value of Cybulski's sign of crepitation heard with maximum intensity in the larynx as the examiner listens with his ear 5 to 10 cm. from the subject's slightly opened mouth. The sound resembles that of the scratching of a pen. This laryngeal crepitation persists during the entire course of the tuberculosis, and when very pronounced it can be heard by an experienced ear at a distance when the subject is speaking. This sign was noted regularly in about a hundred tuberculous patients, and was the means of establishing the diagnosis in a number of cases in which the tuberculosis was in the earliest stages. The specific crepitation differs from that noted in bronchitis, etc., by the absence of sonorous and sibilant râles and by its persistence.

48. **Kidney Organ Therapy.**—Renal opotherapy has been generally abandoned since its failure in Bright's disease, but Cassaet reports excellent results from its administration in a case of severe pyonephrosis consecutive to lithiasis. His patient ate raw kidneys every day for two weeks, and by the end of this time the extremely purulent urine had become limpid. This diet was continued without interruption for about six months, and the patient can now be considered completely cured. Arnozan of Bordeaux has also reported excellent results from ingestion of organic juices in cases of suppuration of the viscera.

51. **Adrenalin in Gynecology.**—Fénoménov has found that adrenalin affects different parts of the mucosa of the genitalia in a different manner, the same as its action is different on the mucosa of the nose, mouth or larynx. It does not seem to affect the mucosa of the vagina, but has a pronounced action on that of the uterus. He even found that ischemia was marked throughout the entire uterine mucosa when the adrenalin was applied to the cervix alone. He was able to curette the uterus with a minimum loss of blood after merely tamponing the cervix with gauze impregnated with a .2 per 1,000 solution of adrenalin. This difference in the response to adrenalin between the mucosa of the vagina and of the uterus could be noted on the same subject.

Archiv f. klinische Chirurgie, Berlin.

Last indexed XLI, page 1561.

52 (LXXI, No. 4.) Intubation in Cicatricial Stenosis and Difficult Decanulement. O. Ehrhardt (Königsberg).—Ueber Intubation bei narbigen Stenosen und bei erschwertem Décanulement.
53 Weitere Beiträge zur Frage der sogen. "Frühoperation" bei Epityphlitis (early operation). E. Payr (Graz).
54 *Instrument to Substitute an Assistant in Operating on Stomach and Intestines. A. Narath (Utrecht).—Zur Technik der Magendarmoperationen. Der "Gastrophor," ein Assistentensparer bei Magendarmoperationen.
55 Zur Pathologie und Therapie der Hernia duodenojejunalis. Ibid. One case.
56 *Influence of Roentgen Rays on Epithelial Tissue. G. Perthes (Leipsic).—Ueber den Einfluss der R.-Strahlen auf epithelial Gewebe, insbes, auf das Karzinom.
57 *Behandlung der Prostata-Hypertrophie mit perinealer Prostatektomie. Voelcker.
58 *Subkutane Rupturen der Gallenwege (biliary passages). F. Hahn.
59 *Ueber Operationen am Choledochus wegen Verengerung durch Narben oder Carcinom, nebst Bemerkungen über normales Pankreas-Sekret. W. Körte.
60 *Ueber Hart-Paraffin-Prothesen, speziell bei Hernien. H. Eckstein (Berlin).
61 *Einige Modifikationen in der Radikal-Operation der Leisten-Hernien. S. Petrulis (Kasan).
62 *Die Oesophagoskopie beim Divertikel. G. Lotheissen (Vienna).

54. **"Gastrophor" for Gastro-intestinal Operations.**—Narath devised this instrument primarily for posterior retrocolic gastro-enterostomy, but finds it useful in all intestinal and gastric anastomoses. It dispenses with an assistant to hold the stomach, and prevents escape of any stomach contents into the abdominal cavity, even when the patient vomits, strains or coughs. It also prevents hemorrhage and facilitates operating as the field is less obscured, and the parts can be sutured as if spread out on a pincushion, while there is no danger of the button's falling into the stomach.

56. **Influence of Roentgen Rays on Epithelial Tissue.**—Perthes accidentally noticed that a wart on his hand vanished while he was working with the *x*-rays. He consequently applied this treatment in 18 cases of warts, finding that 16 vanished completely under the action of the rays. He has been equally successful in curing cases of ulcus rodens of the brow and recurring carcinomatous nodules in the breast. [In the discussion that followed this communication at the German Congress of Surgery, Lassar mentioned that the *x*-rays have a remarkable curative action on the professional dermatitis of physicians and chemists. Kümmel reported a case in which an ulcer developed after *x*-ray treatment and from the ulcer a carcinoma, compelling amputation of the limb.—ED.]

57. **Perineal Prostatectomy.**—Voelcker reviews 11 cases of hypertrophied prostate in Czerny's service treated by perineal prostatectomy. One patient died soon after the intervention, and another from sepsis proceeding from injury of the rectum. He warns that in deciding on the mode of operation it must be

determined beforehand whether the median or lateral lobes are involved or the entire organ.

58. **Subcutaneous Injury of Biliary Passages.**—Hahn was able to cure a boy of 4 who had been run over six weeks before. The laparotomy disclosed a large encapsulated effusion of bile, and a horseshoe communication between the adherent jejunum and transverse colon. No opening could be discovered in the bile duct or cystic duct, and the child recovered without further intervention, except tamponing.

59. **Treatment of Stricture in Bile Duct.**—In Körte's patient the symptoms suggested a tumor in the common bile duct, but the operation revealed that the trouble was due to a benign constriction of the ostium of the duct. He incised the stricture, dilated it about 5 mm. and then sutured the incision after inserting a catheter in the duct, the end projecting. He then introduced another catheter in the same way in the pancreatic duct. The wounds healed by primary intention, but before healing occurred he was able to make some interesting observations on the normal pancreatic juice. He describes 5 other cases of occlusion of the mouth of the bile duct by cancer or cicatricial stricture. Kehr's successful case, as also Halsted's, and the one mentioned above, show that fine results may be obtained even when the outlook seems least promising.

60. **Paraffin Prothesis for Hernia.**—Eckstein reports very favorable experiences with injection of hard paraffin to form a protecting shield under the skin at the point of the hernia.

61. **Modification of Technic of Inguinal Herniotomy.**—Petrulis describes 19 cases treated by Rasumowsky by resection of the neck of the hernial sac alone, leaving the rest of the sac in place, in case the walls are thin and not degenerated. He leaves it in order to avoid the trauma and injury of the seminal cord and testicle inevitable when the hernial sac is detached in toto. None of his patients had any effusion into the sac and the wounds healed by primary intention. In suturing he has devised a method of interwoven wire loops, one set passing from below upward, the other from above downward, and all removed the twelfth to the fourteenth day. The technic is readily seen from the cuts.

62. **Esophagoscopy in Cases of Diverticulum.**—Lotheissen has compiled all the data possible to be learned from and in regard to esophagoscopy in case of a diverticulum. Its special field is in the deep cases. It sometimes demonstrates the absolute impossibility of successful use of the stomach tube. He has invented a special tube with mirror to use in the diverticulum.

Centralblatt f. Chirurgie, Leipsic.

63 (No. 47.) *Eine neue Operations-Methode der Hemorrhoiden. J. Landström (Stockholm).
64 (No. 48.) "Diatomea" ein Heizmittel für den Paquelin'schen Thermokauter. R. Becker.

63. **Crushing Forceps for Hemorrhoids.**—With Landström's forceps the nodules can be crushed so completely by turning the thumbscrew in the handle that neither suture nor ligature is required and there is no hemorrhage. The hemorrhoid is cut off close to the forceps, and the entire operation can be completed during the first whiffs of ether. None of the 25 patients thus treated to date has complained of pain afterward, even when the skin had been included in the compression. The blades are about 7 cm. long and only 4 or 5 mm. wide.

Centralblatt f. Gynäkologie, Leipsic.

65 (No. 47.) Ueber Vagitus uterinus. A. Sippel (Frankfurt a. M.).
66 Ueber die Entstehung der intervillösen Räume bei Tubar-Gravidität. J. Voigt (Göttingen).
67 (No. 48.) Zur Behandlung der weiblichen Gonorrhoe mit Hefe (yeast). M. Plien (Berlin).
68 Tampon-Drainage bei Laparotomien. H. Thomson (Odessa).
69 (No. 49.) Fall von Hebotomie. G. Arndt (Posen).
70 Abortion Forceps. M. Nassauer (Munich).—Abortzange.

Centralblatt f. Bakteriologie, Etc., Jena.

Last indexed XLI, page 1055.

71 (XXXIV, No. 2.) Study of Flagella of Tetanus Bacillus. S. de Grandi.—Ueber die Geisseln des Tetanusbacillus.
72 Ueber eine bewimperte Micrococcusform welche bei einer Septicämie der Kaninchen gefunden wurde. G. Cattarina.
73 *Zur pathologischen Anatomie des Paratyphus. F. Lucksch.
74 *Cancer in Mice. C. O. Jensen.—Experimentelle Untersuchungen über den Krebs bei Mausen. (Concluded from No. 1.)
75 Zum Streit um den Meningococcus. H. Bonhoff.
76 Zur Kenntnis des Tropicaparasiten (Plasmodium praecox Gr. und Fel): Die Tüpfelung der Wirthszellen der Halbmonde. P. Argutinsky (Kasan).
77 Studies on Immunity to Anthrax. O. Ball and A. Petterson.—Ueber natürliche und künstliche Milzbrandimmunität: Das Verhalten des Pferde- und Ratten-Serums gegen Milzbrandbazillen und die Menge des Immun-Körpers im normalen Serum verschiedener Thiere. (Continued.)
78 *Experimentelle Beiträge zur Formaldehyd-Dampf-Desinfektion. H. Herzog.
79 *Modification of the Romanowsky Stain. H. F. Harris (Atlanta, Ga.).

73. **Paratyphoid.**—Lucksch remarks that paratyphoid fever may be suspected when the intestines do not seem to be affected or they present an atypical form of the usual typhoid syndrome. In bacteriologic examination both the typhoid and Kruse dysentery bacilli must be excluded before assumption of paratyphoid.

74. **Cancer in Mice.**—Jensen's successful inoculation of white mice with carcinoma tissue has been described in THE JOURNAL, page 584 of the last volume. He carried the cancer through nineteen generations by reimplantation of the cancer cells. He remarks that these cells, isolated, retained their vitality for twelve days at room temperature, while at the temperature of the body they perished in twenty-four hours. At 1 to 3 C. they survived for eighteen days, but rapidly lost their vitality at temperatures above body heat. If ground in a mortar the experiments resulted negatively. Bright light was rapidly destructive to the cells, and also a .25 per cent. solution of carbolic acid.

78. **Formaldehyd-Steam Disinfection.**—Herzog's tests corroborate those of Esmarch and establish that formaldehyd-steam disinfection at 70 to 80 C. destroys the most resistant spores without injuring in the slightest leather, fur, silks and other sensitive objects exposed to its action. Comparatively little effect is experienced below the outer layers.

79. **Modification of the Romanowsky Stain.**—Harris has been well pleased with the results of a technic, which he describes. After fixation of the blood specimens in Reuter's formalin alcohol mixture, they are rinsed, then placed in Grübler's 1 to 1,000 water-soluble eosin for one-half to two minutes, then rinsed again and stained for five to thirty minutes in a 2.5 to 5 per cent. solution of Unna's alkaline methylene blue, then rinsed again and dried without heat, when they are ready to be mounted in acid-free balsam.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

80 (XXIX, No. 49.) *Beitrag zur klinischen Diagnostik der Tubenwinkel-Adenomyome nebst Bemerkungen über die voluminösen Adenomyome. Funke (Strasburg).
81 *Zur Siderosis retinæ et bulbi. Beitrag zu den Eisensplitter-Verletzungen des Auges. W. Uhthoff. (Commenced in No. 48.)
82 2 Fälle von primärem und isolirtem Lichen ruber planus buccalis. A. Sack.
83 *Protection Against and Dosage of Röntgen Rays. M. Levy-Dorn.—Schutzmaassregeln gegen Röntgenstrahlen und ihre Dosirung.
84 *Einige Bemerkungen über photometrische Methoden zur Beurtheilung der in der Licht-Therapie benutzten Lampen. G. Busck (Finsen's Light Institute, Copenhagen).
85 Behrendt's Sugar Test. H. Wolff.—Ueber die Zuckerbestimmungsmethode von Behrendt.
86 Ibid. F. Goldmann.
87 Ueber die Ehrlich'sche Dimethylamidobenzaldehyd-Reaktion. Pröscher.
88 Citarin, ein neues Mittel gegen Gicht (gout remedy). Fisch.
89 Contrivance for Regulating the Jodko Currents. L. Stembo (Wilna).—Eine Vorrichtung zur Regulirung der Spannung der Jodko-Ströme.
90 Die Helmholtz-Biographie. B. Laquer (Wiesbaden).
91 (XXIX, No. 50.) *Robert Koch. Zum 60 Geburtstage. F. Loeffler.
92 *Ueber die experimentelle Syphilis. El. Metschnikoff and Em. Roux (Paris).
93 *Koch's Share in Malaria Investigations. Ronald Ross (Liverpool).—Der Antheil Koch's an der Malariaforschung.
94 *Is Rabies Toxin Filtrable? A. Celli and D. de Blasi (Rome).—Ist das Wutgift filtrirbar?
95 Ueber Agglutination und Präzipitation. R. Paltauf (Vienna).
96 *Immunisirung gegen Tuberkulose. F. F. Friedmann (Berlin).
97 Das Diphtherieheil-Serum in der allgemeinen Praxis. Winselmann (Krefeld).
98 Fall von puerperaler Sepsis behandelt mit Aronson's Anti-streptococcen-Serum. F. Mainzer (Berlin).
99 Medicinische Reform-Strebungen der Türkei. R. Rieder Pascha.

80. **Clinical Diagnosis of Adenomyoma in Tubal Corner.**—Funke reports a case in which he diagnosed a small adenomyoma at the orifice of one tube. He based his diagnosis on the localization of the small tumor, its consistency, tenderness,

and the intense disturbances it induced during menstruation, the completely normal condition of the other tube, and the fact that circumscribed inflammation of the uterus with the tissues sound around it is unheard of. The tumor was resected and no other lesions could be detected in the rest of the uterus. The latter was fastened in vesico-ventro fixation and the patient, a woman of 36, was freed at one stroke from the severe dysmenorrhea which had tormented her for nine years. Menstruation has recurred seven times since, free from any disturbance. If the dysmenorrhea returns or other symptoms indicate the growth of new tumors, then the uterus will have to be removed. This is the first case Funke has found in the literature in which the lesion was correctly diagnosed before operation. There were no traces of adhesions. He describes 2 cases of large adenomyomata, and reviews other publications on the subject. The pain—which was always localized—he ascribes to menstrual swelling of the tumor.

81. **Injury of Eyes from Iron Scraps.**—Uhthoff describes 4 cases and discusses the clinical picture of siderosis retinæ et bulbi, with the treatment and prognosis.

83. **Protection Against Roentgen Injuries.**—Levy-Dorn's article is the summary of extensive experience as a "Röntgenologist." He states the maximum of safe exposure as twenty times the dose required to radiograph the pelvis of an adult. He adds that one and a half times the maximal single dose, fractioned over three days, should be the limit for two weeks' treatment. Inflamed skin is more sensitive than sound, the young than the old, the mucosæ, face and back of the hand than other portions of the body. A bone below enhances the action of the rays. He further describes various procedures in current use to protect the practitioner, the subject and the manufacturer.

84. **Photometry in Light Treatment.**—Busck reports tests made at Finsen's Institute of the various lamps invented for phototherapy. The beneficial effect is due mainly to the deep action of the rays, as he explains in detail. Comparative tests show that none of the iron and other lamps possess this deep action to the same extent as the Finsen apparatus, and that seventy-five minutes are required to produce the desired effect. All the lamps have some therapeutic value, and hence certain results have been obtained in lupus, with each, but they are not to be compared with those secured with the Finsen apparatus.

91. **Robert Koch.**—December 11, 1843, Koch was born at Clausthal in the Hartz mountains, and after graduating at Göttingen and Hamburg settled down to the practice of medicine at Hanover, removing later to Rakwitz in Posen and thence to Wollstein. It was at the latter place, when he was scarcely 30, that he succeeded in discovering the key that explained the facts and material which Lister, Pasteur and others had been collecting. He was able to establish certain specific, pathogenic bacteria as the causal agents of certain specific, transmissible diseases. His work on the "Etiology of Wound Infections," 1878, inaugurated a new era, Loeffler says, and placed the unknown country practitioner in the front rank of the world's men of science. He was soon summoned to Berlin, and his career since is known to every one. Loeffler reviews it in detail and remarks that the work on which he is engaged at present on behalf of the English government in South Africa has already been crowned with success, and it is rumored that the results will add still more laurels to his crown.

92. **Experimental Syphilization.**—The anthropoid chimpanzee successfully inoculated with syphilis died fourteen weeks afterward from a respiratory affection. A second, male chimpanzee was inoculated in turn with fluid from the chancre on the first, and presented likewise what are regarded as typical syphilitic lesions. This animal succumbed also to a pneumococcic affection about eight weeks after the first signs of the syphilis developed. The first animal exhibited secondary symptoms, but none was observed on the male.

93. **Koch's Share in Malaria Research.**—Ross states that three years after Laveran's discovery of the malaria hematozoön King and Koch both happened independently on the surmise that the infectious disease might be induced by mosquito bites. King published his surmise in 1883, but Koch did not publish anything on the subject, although he mentioned the suggestion in his lectures, and his assertions were quoted by Pfeiffer in a published work soon after. The idea had occurred to Koch on his trip to India in 1883-4. Laveran also suggested the same possibility in 1884, and Manson ten years afterward reaffirmed it, basing his announcement on later personal research. All except Koch were content with theorizing, and he was the only one of the above who sought to verify the suggestion in actual experimentation. He collected numerous arguments in favor of it on his trip to Africa in 1897, and called attention to the analogies between malaria and Texas fever in their transmission by insects. He published his independently derived conclusions in June, 1898, nine days before Manson published Ross' own conclusions from the successful cultivation of proteosomata in the culex. Koch also succeeded in perfecting the staining technic for the flagella, with Bignami and Bastianelli at Rome in 1898, and the fact that Sacharoff and McCallum had preceded him in this road does not detract from his merit. Ross then describes his own two years of patient efforts to cultivate the malaria parasites in different species of mosquitoes in order to determine which one is responsible for its transmission to man, and his relinquishment of the search for a year from lack of opportunity to devote himself to this work, until August, 1899, when by the aid of Annett and Austen he was able to resume the task which he then completed in a few weeks at Sierra Leone. During this interval Koch corroborated Ross' previous conclusions and published the results, and in 1899 he surprised the scientific world with his announcements in regard to the almost inevitable malarial infection of the children of the natives in malarial regions. Others had noticed the frequency of malaria among the native children, but no one before Koch had realized the significance of this fact. He pointed out that the children are the source where the mosquitoes derive their infection—the number of infected adults is not sufficient to explain the widespread infection of the insects. This new law also emphasizes the importance for newcomers to avoid residing near native villages, and the necessity for isolation. The conclusion from his research that immunity was acquired as the children grew up was inevitable. He also inaugurated the campaign of quininizing the entire infected community in hotbeds of malaria. Ross acknowledges that he was petrified at the audacity of such a proposition, but gradually practical hygienists, including himself, have found that it is frequently feasible to accomplish this aim, much more frequently than was at first supposed possible. Authorities like Laveran, Celli and McGregor ascribe the greatest importance to this method. In places where it is impossible to apply other measures successfully, this wholesale quininization is proving an efficient aid for the rapid reduction of the sick list. Koch's assertions in regard to the dangers of the irregular use of quinin in such circumstances have been sustained by further experience. In conclusion Ross does homage to Koch's work in malaria research as not only that of a scientist but of a great hygienist, adding: "He used the microscope when necessary, but he also knew enough to lay it aside when the time came and apply what he had learned for the benefit of man. Even more than this, he did not confine his laboratory within four walls, but stretched it to include the remotest parts of the earth's surface. He has been a leader at the same time in the campaigns against three of the greatest plagues of mankind, tuberculosis, malaria and cholera, and the temperate as well as the tropical zone owes him the same debt of gratitude."

94. **Filtered Rabies Virus.**—Celli and de Blasi announce that they were able to successfully inoculate dogs and rabbits with the juice expressed from the brains of animals succumbing to rabies, after it had been passed through almost impermeable filters, without pressure. Besides those presenting typical symptoms a large number of the animals died after the inoculation without exhibiting pronounced symptoms of rabies and no cause for their death could be discovered except in two instances. In these, the bodies described by Negri as the specific

agents of rabies were discovered in the hippocampus major in two of the animals, a dog and a rabbit.

96. **Immunization Against Tuberculosis.**—Friedmann announces that he has overcome the difficulties connected with attempts at immunization against tuberculosis with either human or bovine bacilli. He has succeeded in rendering guinea-pigs and other animals immune to virulent doses of these bacilli by previous injection of tubercle bacilli derived from a large turtle which had succumbed to spontaneous tuberculosis. Animals treated with cultures of the turtle bacilli respond with a local infiltration, but it soon heals, leaving scarcely a trace, and the animals remain in the best of health while they tolerate without reaction otherwise fatal doses of human and bovine infection. When killed after three months the guinea-pigs showed no traces of infection except scattered, occasional, minute nodules similar to those described by von Behring and others in their immunized animals. No bacilli could be found in any of them, and in time they would probably entirely retrogress. Turtles infected with turtle tuberculosis soon die with millions of bacilli in every section of any organ, but if previously treated with human or bovine tuberculosis cultures they are uninjured by infection with turtle tuberculosis, while all the controls die in a week or two. Experiments are now under way to immunize larger animals, cows, horses, sheep, pigs, asses and goats, by this preliminary treatment with the turtle stem culture. The guinea-pig, however, is considered the touchstone of the method. As it does not seem to be injured in any way by the turtle tubercle bacilli, Friedmann thinks that we are justified in assuming that they will not harm any mammal. On the other hand, as the susceptible guinea-pig is so readily and completely immunized against tuberculosis from other sources by this method, we must assume that the turtle bacilli possess high immunizing power. We thus have in the turtle stem culture a vaccine material which is not only harmless but confers high immunity.

Monatshefte f. praktische Dermatologie (Unna's), Hamburg.

Last indexed XLI, page 890.

100 (XXXVII, No. 6.) Eczema. Depigmentation of Hairs in Eczema and Discovery of Micro-organisms on the Hairs and Lesions on the Hairs Induced by Them. J. Schwenter-Trachsler (Berne).—Beitrag zur Ekzemfrage: durch Depigmentation der ekzematös erkrankten Haare und Darstellen der darauf befindlichen Mikroorganismen, sowie der durch sie verursachten Läsionen der Haare.

101 *Causes of Acid-fastness of the Tubercle and Lepra Bacilli. E. Delbanco.—Ueber die Ursachen der Säurefestigkeit der Tuberkel- und Leprabacillen. Die Säurefestigkeit der Lycopodium-Spore, der Kork-Zelle, etc. u. a.

102 (No. 7.) *Treatment of Pigmented Nevi with Hydrogen Dioxid. C. Cohn.—Die Behandlung der Pigmentmäler mit 30-percentigem Wasserstoffsuperoxyd Merck.

103 (No. 8.) New Representation of Epithelial Fibers and the Membrane of the Prickle Cells. P. G. Unna.—Eine neue Darstellung der Epithelfasern und die Membran der Stachelzellen. (Commenced in No. 7.)

104 (No. 9.) Ueber die Zell-Degeneration beim Rhinosklerom. V. Mirbelli. (Reply to Unna's article in No. 1.)

105 (No. 10.) *Stain Technic. A. Pappenheim.—Ueber Beizenfärbung.

106 (No. 11.) Psoriasis vulgaris der Mundschleimhaut (of buccal mucosa). M. Oppenheim (Vienna).

107 Experiences with Anthrasol. A. Sack.—Ueber die Erfahrungen mit dem neuen Anthrasol-Präparat.

101. **Causes of Acid-Fastness.**—Delbanco shows that the resistance of the tubercle bacillus to decolorization is due to the presence of a solid fat which protects it. This acid-fastness is shared by lycopodium spores, by cork cells and by certain other plant cells, and is due in each to the same cause, the presence of a fat more or less resembling tallow in its consistency. The presence of a non-solid fat does not confer this resisting power.

102. **Treatment of Pigmented Nevi with Hydrogen Dioxid.**—A 30 per cent. solution of hydrogen dioxid is applied twice daily to the nevus, a single drop on a glass rod. It is left to dry for fifteen minutes. The applications can be repeated several days in succession. They cause no appreciable pain. Cohn describes 3 cases thus treated at Unna's clinic. In each the nevus was very extensive, but under this treatment almost the entire extent of the nevus patches was cleared up in four weeks, and the few spots still left will undoubtedly subside under further applications at home, as the comparatively harmless substance can be safely entrusted to the mothers. One patient was a child of 5 with numerous dark moles over the entire trunk. In less than a week a large number of the nevi had disappeared completely under the applications of this 30 per cent. solution. Druggists have only recently succeeded in producing a concentration of this strength.

105. **Differentiating Staining Technic.**—Pappenheim describes some of the complex laws which govern the staining properties. Among others he notes that delicate differentiation of certain plasmatic substances is best done with what he calls an "adjective" staining with basic stains. On the other hand, differential nucleus staining is best accomplished with a "substantive" stain with basic stains, or an "adjective" staining with acid stains (alumhematoxylin).

Therapie der Gegenwart, Berlin.

Last indexed XLI, page 1508.

108 (XLIV, No. 12.) *Ueber die Wurmkrankheit Ankylostomiasis und ihre Bekämpfung. W. Zinn (Berlin).

109 *Zur Licht-Therapie nach eigenen Versuchen. P. Krause (v. Strümpell's clinic, Breslau).

110 *Therapeutic Application of Natural Gastric Juice from the Pig in Stomach Affections. L. C. Mayer (v. Noorden's clinic, Frankfurt a. M.).—Ueber die therap. Verwendung natürlichen Magensaftes (Dyspeptine) bei Magenkranken.

111 *Die Behandlung der Fissura ani. M. Katzenstein (Berlin).

112 Die dermatologisch wichtigen Bestandtheile des Theeres und die Darstellung des Anthrasols (coal tar preparations). H. Vieth.

113 Latest Experiences in Infant Feeding. H. Finkelstein.—Säuglingsernährung. Collective Review.

114 Zur Anesthesirung der oberen Luftwege bei Tuberkulösen. G. Bradt.

115 Aristochin bei Bronchial-Asthma. K. Dresler.

108. **Ankylostomiasis.**—Zinn states that there are 17,161 cases of this affection known among the 181,730 miners in Germany. He reviews its history in other countries from the discovery of the parasite in 1838 to date, but apparently does not know of any American contributions to the subject.

109. **Phototherapy at Breslau.**—Krause reports that he treated 20 cases of erysipelas by keeping the patients in a room lighted only by a red light as tested by sensitized photographic plates. Comparison with 75 patients treated by other means showed that the average duration of the fever was a little shorter, 4.3 days with the red light and 6.2 without it, but in other respects the results were on the whole better without the red light. His experience with the electric reflector (Schuckert's Scheinwerfer) in 51 cases of various affections, including 5 of erysipelas, was more favorable, and he thinks the results observed warrant further trials of this measure. The benefits were most marked in rheumatism, lumbago, and neuralgia, the 28 patients in this class all asserting that they were much relieved during and immediately after the sittings. The effect was temporary at first and required several dozens of twice daily applications before complete cure.

110. **Therapeutic Application of Natural Gastric Juice.**—Pavlov's method of obtaining natural gastric juice from dogs has been successfully applied to pigs. The gastric juice thus derived has been tested at von Noorden's clinic, and in every case marked benefit was observed. Five cases are described in detail by Mayer out of a much larger experience. All the patients gained in weight during the five to seven weeks' course of treatment with this "dyspeptine." It not only substituted the inefficient or missing gastric juice but seemed to have also the power of healing the inflamed gastric mucosa and promoting the insufficient secretion. It was found especially useful in tuberculosis, restoring the appetite and slightly increasing the weight. In several cases of chlorosis and anemia accompanied by loss of appetite and vomiting, administration of the natural gastric juice just before meals cured these symptoms. The "dyspeptine" is not unpalatable, and the taste can be completely disguised by the addition of peppermint, lemon juice or beer. Stomach affections of any kind, acute or chronic, in which there is a deficiency of gastric juice indicate treatment with "dyspeptine" in doses ranging from 10 to 15 c.c. either just before or with the meals. As its action is both symptomatic and curative it can be regarded as a superior "stomachicum."

111. **Drug Treatment of Fissura Ani.**—Katzenstein deadens the sensibility of the nerve terminals in the fissure by applying cocain. He abolishes the spasmodic contraction with belladonna, and he disinfects the parts, to allow them to heal, with

a coating of ammonium sulpho-ichthyolate. His formula is .5 gm. extract belladonna, .05 gm. cocain hydrochlorate, and 6 gm. ammonium sulpho-ichthyolate. This mixture is warmed and applied on a piece of cotton twisted into a cord about the size of a knitting needle. It is inserted in the rectum along the wall opposite the fissure, and left until expelled. This application repeated twice a day will usually complete the cure of the fissure in a week or two at most.

Wiener klinische Rundschau, Vienna.

Last indexed XLI, page 816.

116 (XVII, No. 34.) Zur Bekämpfung der Anchylostomum-Epidemie im Ruhrkohlenbezirk. F. Steinhaus.
118 (No. 35.) *Die klinische Typhus-Diagnose. Gebauer. (Commenced in No. 33.)
119 Abdominal Supports. H. Klein (Vienna).—Ueber Leibbinden. (Commenced in No. 34.)
120 (No. 36.) Die Bilharzia-Erkrankungen. A. Kautsky (Vienna).
121 (No. 37.) *Die Behandlung der Acne vulgaris mittelst Röntgen-Strahlen. L. Torök and M. Schein (Budapest).
122 *Ist die Ortho-Diagraphie für exakte Herz-Untersuchungen brauchbar (for precision in examining the heart)? Hornung.
123 (No. 38.) *Zur Therapie der Placenta previa. R. v. Braun-Fernwald. (Commenced in No. 35.)
124 (No. 39.) Zur Klinik der Pseudoparesis spastica. M. Sommer.
125 *Zur Klinik der Darmverstopfungen (intestinal occlusion). S. Schwartz.
126 (No. 40.) *Einiges über das Palmar-Keratom und seine Behandlung. A. Sack.
127 Ueber subhepatische Exsudate und Adhäsionen als Ursache von Koliken. L. Silberstein.
128 (No. 41.) *Zur Chemie und Technik der Diazoreaktion. A. Ott.
129 Medicolegal Study of Cerebral Hemorrhages. E. Gebauer (Wittenberge).—Die traumatischen Gehirnblutungen in gerichtlich-medizinischer Beziehung. (Commenced in No. 38.)

118. **Clinical Diagnosis of Typhoid Fever.**—Gebauer thinks that it is usually possible to diagnose typhoid fever from the combination of temperature, pulse, roseola, spleen and early diazo reaction. The typhoid tongue and diarrhea are less characteristic but also useful when present, as also the palmo-plantar sign, hypoleucocytosis, behavior of the urine and ileo-cecal phenomena. On the other hand, herpes labialis, icterus, sweats, speak against typhoid infection, as also coryza and conjunctivitis. His article is a comprehensive summary of what has been published on this subject in the last few years.

121. **Roentgen Treatment of Acne.**—Torök and Schein report 7 cases of acne vulgaris treated with the *x*-rays. The results indicate, they say, that this is the most effective and reliable of any method of treatment known to date. These cases were particularly encouraging as the affection had previously resisted every other known means of treatment. It is not invariably effectual as one of the 7 cases was not cured. The acne in this case was very extensive and the *x*-rays, instead of healing up the patches as usual after the second sitting, seemed to aggravate the affection. A diffuse inflammatory infiltration of the skin followed the second application with numerous subcutaneous nodules and superficial folliculitis. A minimal reaction to the rays is not always accompanied by the cure of the acne, but a moderate degree of Röntgen dermatitis should be aimed for. The disadvantages of the treatment are the pigmentation liable to follow in brunette subjects, the possible, slight atrophy of the skin and the exceptionally severe dermatitis reaction. The *x*-rays cause the lanugo hairs to drop out, and evidently check the secretion of sebum. They think that the beneficial action of the rays is due to this action on the sebaceous glands. Their parenchyma becomes more indurated and this explains the lasting benefit derived in nearly every case from Röntgen treatment.

122. **Orthodiagraphy of the Heart.**—Radioscopy of the heart gives very contradictory findings in clinical experience, and Hornung shows that these are due to inherent sources of error in the method itself. He gives cuts of hearts injected with plaster in the cadaver, showing that even extreme dilatation of the heart fails to cast a corresponding shadow, and that deductions based on radioscopy are eminently liable to be misleading. He comments on the implicit confidence of the general practitioner in the announcements from the university medical centers. He never troubles himself to verify the correctness of these announcements, and consequently errors take root and thrive, as in the case of orthodiagraphy (from the Greek term *orthos*, straight.

123. **Placenta Previa.**—The tampon and colpeurynter suffice for the majority of cases of placenta previa, but in case of a very rigid cervix and severe hemorrhage cesarean section may be necessary. Braun-Fernwald affirms further that when severe hemorrhage occurs once or more times during the last months of pregnancy the patient should be artificially delivered. He accomplishes this with a strip of iodoform gauze inserted past the internal os, packing the cervix and vagina tight with gauze. This procedure has always been successful, although it is better adapted for lateral than total placenta previa, as the gauze can be inserted higher up. As a last resort he advocates trying the method of clamping with forceps the uterine arteries as high up as possible. No mishap was observed from so doing in Henkel's 6 and Koblanck's 2 cases thus treated. If this fails, total extirpation by the vagina should follow, and without too long delay.

125. **Intestinal Occlusion.**—In one of the cases described the diagnosis in the case of an elderly woman wavered between carcinoma and simple coprostasis. A strong calomel purge resulted in the expulsion of a hard mass the size of a pigeon's egg, after which all symptoms subsided. The mass proved to be wax, and it was learned that the patient was in the habit of eating large quantities of unstrained honey. In 3 children the occlusion was due to cherry stones, or similar substances, which had accumulated in the rectum and had to be mechanically removed.

126. **Palmar Keratoma.**—Sack has been able to banish these horny tumors by bandaging them with freshly made, sweet cream cheese. The casein in this form has hygroscopic properties like glycerin. It is applied thick and covered with an impermeable dressing, left undisturbed for eight to twelve hours at a time. In a day or two the keratoma scales off to a soft, pink excrescence, which he then treats with a mixture of equal parts of borax and salicylic acid, 5 parts to 10 parts spirit. vin. and 80 parts glycerin.

128. **Diazo Reaction.**—The discredit into which this reaction has fallen in some quarters is ascribed by Ott to lack of proper precautions in the technic.. The reagents must be pure, undecomposed, the urine recently obtained and it must be known that the subject has taken no medicines for some time previously to the test. The proper tint must be obtained. When the test is positive the color is a cherry red or like that of raspberry juice, sometimes with a bluish tinge. The color fades more or less rapidly, but at latest in twenty-four hours, and this fading is an important characteristic of the true test. The color is most marked in the foam induced by shaking the fluid. He attributes great importance to positive findings of this test in the unfavorable prognosis of phthisis.

Correspondenz-Blatt f. Schweizer Aerzte, Basle.

Last indexed XLI, page 1510.

130 (Nos. 10 and 11.) *Zur Diagnose und Behandlung der Nierentuberkulose (renal tuberculosis). F. Suter (Basle).
131 *Hydrotherapy in Sciatica. J. B. Cathomas.—Die hydriatische Behandlung der Ischias.
132 (No. 12.) *Gelatin for Prevention of Post-operative Hematoma. Tavel (Berne).—Die Anwendung der Gelatine zur Verhütung postop. Hematome.
133 (No. 13.) Inspection of School Children's Ears. O. Laubi.—Methode und Resultate der Ohrenuntersuchungen von 22,894 Schülern, Zurich.
134 (No. 14.) *Artificially Carbonated Baths. M. Cloetta.—Herstellung kohlensaurer Bäder.
135 Ueber das klassische Werk des Schweizer-Arztes J. K. Peyer: "De glandulis intestinorum." F. v. Mandach. Seventeenth Century.
136 (No. 15.) Ueber Diphtherie-Heil-Serum. E. Wieland.
137 Behandlung des Ischias (sciatica). Glatz (Nice). See No. 11.
138 (No. 16.) Barlow'sche Krankheit (Skorbut der kleinen Kinder). M. Stooss. (Commenced in No. 15.)
139 (No. 17.) Endemic Streptomycosis Bullosa. M. Winkler.—Ueber eine eigenartige benigne Strept. bull. in der Blindenanstalt Könitz bei Bern.
140 Results of Sanatorium Treatment of Tuberculosis in Switzerland. H. Staub.—Ueber die in den schw. Heilanstalten für unbemittelte Lungenkranke erzielten Erfolge.
141 (Nos. 18 and 19.) Ueber die Tuberkulin-Probe. E. Fischer.
142 Influence of Light on Man and Present Status of Outdoor Light Treatment. P. Maag.—Einfluss des Lichts, etc.
143 (No. 20.) Zur Laparotomie bei penetrierendem Bauchschuss (bullet in abdomen). C. Brunner.
144 Technic of Making Mercuric Oxid Salve. P. Knapp.—Die Herstellung und Verwendung der gelben Quecksilberoxydsalbe.
145 (No. 21.) Infantile Mortality and Cows' Diseases. O. Wyss (Zurich).—Kindersterblichkeit im ersten Lebensjahr und Blasenseuche der Milchtiere.

146 (No. 23). Ueber die Diagnostik der accidentellen Herzgeräusche im Kindesalter (heart sounds in children). Rheiner.
147 Cholelithiasis. Chologen-Behandlung Operation. Häberlin.

130. **Renal Tuberculosis.**—Suter reviews 19 cases of tuberculosis of the kidney treated by surgical intervention at Burckhardt's clinic. The mortality was 1/7, generally in cases with a tendency to a rapid course which the operation was powerless to arrest. The cure was complete and permanent in all the cases in which the affection was operated on before the tuberculous process had spread to other organs. When all the morbid parts could be removed the patient was cured. In 2 cases that came to necropsy the other kidney was found perfectly sound, as anticipated, although the bladder and prostate were involved as diagnosed before the operation. The first symptoms are vague; sometimes there is no pain at first, and the urine remains normal until after caseous degeneration of the nodules and communication is established between the cavities and the urinary passages. The bladder is usually assumed to be the seat of the lesion as the presence of pus in pathologic urine causes symptoms on the part of the bladder which are liable to mask those in the kidney. The orifice of the ureter and its vicinity become irritated early by the pathologic urine, and the subjective symptoms are of absolutely no value for the diagnosis of renal tuberculosis. Every case of spontaneous catarrh of the bladder in a subject between 20 and 40 should suggest the probability of tuberculosis of the kidney as the primary affection. The urinary findings correspond to the character of the tuberculous lesions and vary with their different phases. In case of a simple cavity the urine contains traces of albumin and little pus. In case the kidney is more diffusely affected, the proportion of pus and of albumin increases and blood cells may be found. If the kidney is very seriously affected, albumin to 1 or 2 per 1,000 may be found and considerable pus. Tube casts are seldom found and only in the severest cases. He noted them only once in the 19 cases operated on. Bacteriologic examination confirmed the diagnosis in every case. The kidney is by no means always sensitive to pressure, and pain may be referred to the sound mate. The diagnosis must be based principally on the cystoscopic aspect of the orifices of the ureters. In incipient cases they are still normal; in the more advanced, that side of the bladder shows the influence of the pathologic urine.

131. **Hydrotherapy in Sciatica.**—Cathomas comments on the rapid improvement obtained in a number of cases of sciatica after a few Scottish douches. Some of them were old, rebellious cases, but they responded surprisingly to various hydrotherapeutic measures. The results obtained confirm the assertions of Winternitz and others who attribute neuralgias to disturbances in the circulation in the nerves. Glatz in No. 15 also reports excellent results from hydrotherapy in sciatica and other neuralgias.

132. **Gelatin for Prevention of Post-Operative Hematoma.**—Tavel has noticed that post-operative local hemorrhage is most frequent during the summer and attributes this fact to the dilatation of the blood vessels from the heat. Corpulent subjects are most liable to it, while it is rare in children. He has been using for some time local applications of gelatin to insure coagulation of the blood and prevent after-hemorrhage. After the lowest suture has been made he irrigates the wound with his salt-soda solution, and then dabs it partly dry, after which he moistens it with gelatin, drizzling it along the entire extent of the wound from a fused tube, kept previously in a warm sublimate solution, the tip broken off just before using. The upper layers of the wound are then sutured, drizzling with gelatin from time to time. He has not had any post-operative bleeding since he has been following this technic except in operations on the bones; the gelatin is not able to suppress entirely all bleeding in these cases. Before using a new batch of gelatin he is careful to test it with cultures and inoculation of animals.

134. **Inexpensive Artificially Carbonated Baths.**—Cloetta fills a fountain syringe with a solution of $NaHSO_4$ and hangs it above the bathtub filled with water. The tube from the syringe terminates in a T-shaped glass tube with four openings along the branches. This glass tube is passed over the floor of the bathtub after the stopcock is turned, thus sprinkling a layer of the fluid on the floor of the tub. As soon as all the fluid in the syringe has thus been conveyed to the bottom of the bathtub, a corresponding amount of sodium bicarbonate is sprinkled on the surface of the water. As it dissolves only slowly in the water, it settles gradually to the bottom and at once a lively generation of carbonic dioxid results, the gas bubbling through the entire depth of the water, from the floor of the tub to the surface. The degree of carbonation can be controlled; the ingredients are inexpensive and the tub is not injured by them, while the carbonated bath thus produced is in many respects the exact counterpart of the natural carbonated waters.

Riforma Medica, Palermo.

148 (XIX, No. 45.) Considerazioni intorno ad un caso di ascesso cerebrale. E. Boschi.
149 *Per l'uso del siero antistreptococcico nell' infezione puerperale e nell' erisipela. P. Guizzetti. (Commenced in No. 44.)
150 (No. 46.) Endocardial Musical Souffles. C. Gavazzeni.—Contributo allo studio dei rumori musicali endocardici.
151 Bacteriology of Hernial Fluid in Strangulated Hernia. A. Rodella.—Alcune considerazioni sui resultati dell' esame batteriologico del liquido erniario in ernie strozzate.
152 2 casi di "Ulcus rodens." V. Casoli.
153 Ulteriore contributo intorno alla eliminazione dell' formaldeide. E. Gianelli.

149. **Antistreptococcus Serum in Puerperal Fever and Erysipelas.**—Guizzetti's experiences were all eminently favorable. He gives the particulars of 4 cases of the former and 2 of the latter affection in which this serum treatment was applied. He used serum from the Pasteur Institute and supplemented it with the usual measures.

Gazzetta degli Ospedali, Milan.

Last indexed page 70.

154 (No. 137.) Immunita nelle malattie infettive acute. Immunita antitossica. L. Lucatello (Padua).
155 Immunità antibatteriale. N. Pane (Naples).
156 Acetic Acid for Differentiation of Serous Effusions. F. Rivalta.—Sulla prova dell' acqua acetica, etc.
157 Sulla nefrotossicita dei sieri normali omogenei ed eterogenei. Cioffi (Naples).
158 Gangli del simpatico e tubercolosi. U. Alessi.
159 La Colelitiasi come complicanza della febbre tifoide e la sua cura medica. G. Corsini.
160 Il calomelano nella polmonite. C. Bertazzoli.
161 Cura dell' ectopia inguinale del testicolo con l' orchidopessia. G. Gasparini.
162 Studio dell' infezioni pneumococciche extra-polmonari. L. Maccone.
163 (No. 140.) Sulla teoria ipofisaria della acromegalia. G. Migliacci.
164 Contributo alla statistica della gastroenterostomia. C. Zatti.
165 Anemia. E. Belliboni.
166 *Contro le polluzioni notturne troppo frequenti. A. Campani.
167 Pleurite purulenta guarita coll' inezione di aria atmosferica (cured by injection of air). C. Ricci.

166. **Treatment of Nocturnal Pollutions.**—Campani applies a T bandage to be worn at night. Two or three elastic bands arch over the relaxed member, acting as a restraint during erection, which thus awakens the subject by the pain induced. This simple appliance has cured every case of excessive nocturnal pollutions in his experience.

New Patents.

Patents of interest to physicians, etc., Dec. 1 and 8, 1903:

745311. Truss. Joel U. Adams, Cincinnati.
745784. Means for inspecting or testing eyes. John E. Chambers, Chicago.
745785. Warming device for use by invalids. Edward H. Coates, Macon, Ga.
745333. Serum and preparing same. Wm. P. Dunbar, Hamburg, German.
745856. Surgical sling. John F. Janisch, Kirksville, Mo.
745627. Instrument for testing eyes. Christian F. Kantlehner, Chelsea, Mich.
745913. Testing and fumigating apparatus. Milton Schanier, New York.
745685. Death-determining instrument. Jordan E. Storms, Jr., Yonkers, N. Y.
745468. Magnetic tachometer. Arthur P. Warner, Chicago, and C. H. Warner, Beloit, Wis.
746474. Suspensory bandage. Edwin R. Drake, De Land, Fla.
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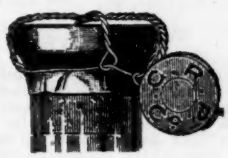

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TEST OF HIGH FREQUENCY CURRENT.

By R. V. WAGNER, M.D.

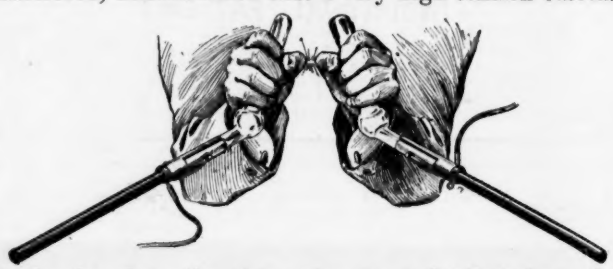
Inventor and Designer of the Mica-Plate Static Machine and X-Ray Apparatus, Etc., Etc.

308 DEARBORN STREET, CHICAGO.

A most interesting, as well as a most practical, test of high frequency currents is made with two high frequency induction electrodes (commonly called ultra-violet ray tubes). Have a tube attached to each terminal of the high frequency apparatus, without any connection to the ground, holding one in each hand. If the apparatus used for exciting the tubes is developing the proper current, as should be used for therapeutical purposes, the inductive effects may be made strong enough to cause sparks, or a visible discharge to pass between the knuckles of the thumbs when placed near to each other.

This is remarkable, when it is considered that the resistance of the body is a great deal less from hand to hand than the resistance of the air between the knuckles. Any current, not a high frequency current, would pass through the body instead of the air gap, no matter how high the tension or voltage.

The production of the sparks between the knuckles, as described, demonstrates that a very high tension current



is developed in the tissues by the induction from the tubes, forming a counter electro-motive force. It is due to the fact that current developed in the tissues by induction acts upon those of high resistance as well as those of low resistance, that such remarkable therapeutic effects are obtained with high frequency currents.

In selecting a high frequency apparatus it should be remembered that the alternations, interruptions, or fluctuations in the current should be upwards of fifty thousand per minute to be called high frequency, and that aside from the frequency the voltage or the tension of the current must be enormously high to obtain the required inductive effects.

When using a Static Machine the speed at which the machine is run increases both the frequency as well as the tension of the current. The frequency is governed by the volume of current developed, and the higher the speed the greater the volume of current. But, independent of the volume of current generated, a high speed produces very high tension effects, higher than can be obtained in any other way. If a high speed can not be obtained, then it is necessary to use a step-up transformer, that is, the current must be increased in tension at the expense of volume, which tends to lower the frequency.